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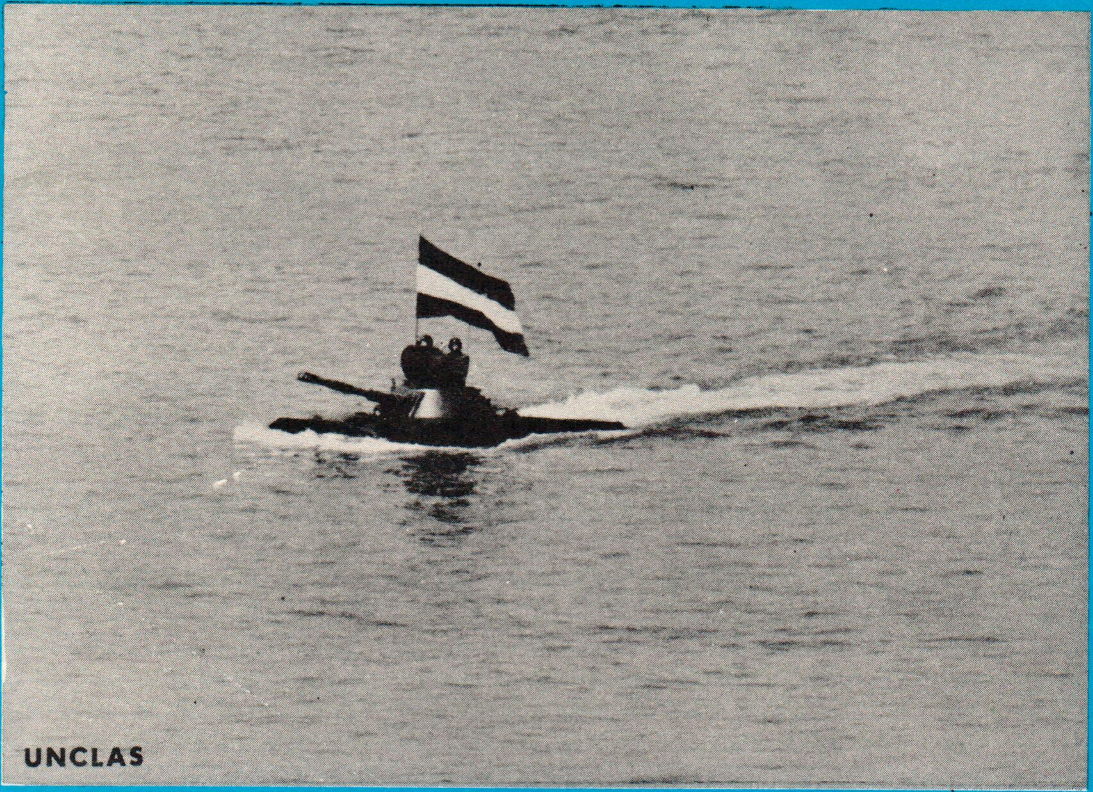

100th Edition

October 1971

ARMY TECHNICAL INTELLIGENCE REVIEW No 100

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Cover Picture... PT-76 Swimming

ARMY TECHNICAL INTELLIGENCE REVIEW No 100

FOREWORD

As you will already have noted, with this edition of the Review we score our first century. Looking back, it is just 20 years ago since No 1 of the MI 10 Review came hot off the press with news of the first appearance on the 1951 May Day Parade of a new Soviet APC (BTR-152), Russian Signal equipment captured in Korea and a gas mask for Soviet horses! The beginnings of Russia's vast missile inventory were also reported in the shape of an improved German V-2 rocket. It certainly is a far cry from those days.

In our present Review I would draw your attention to a particularly useful Summary of Soviet Artillery and the article on the Soviet ATGW SAGGER, which gives a very good idea of the missile and its employment. I apologise in advance for any discrepancy in details of Soviet drill as depicted by the Tech Int(A) team headed by Comrade Lt Colonel Ball.

We have a special appeal to make for one particular back number of the Review. If anybody has finished with their copy of No 96 would they please return it to us as it is in very short supply.

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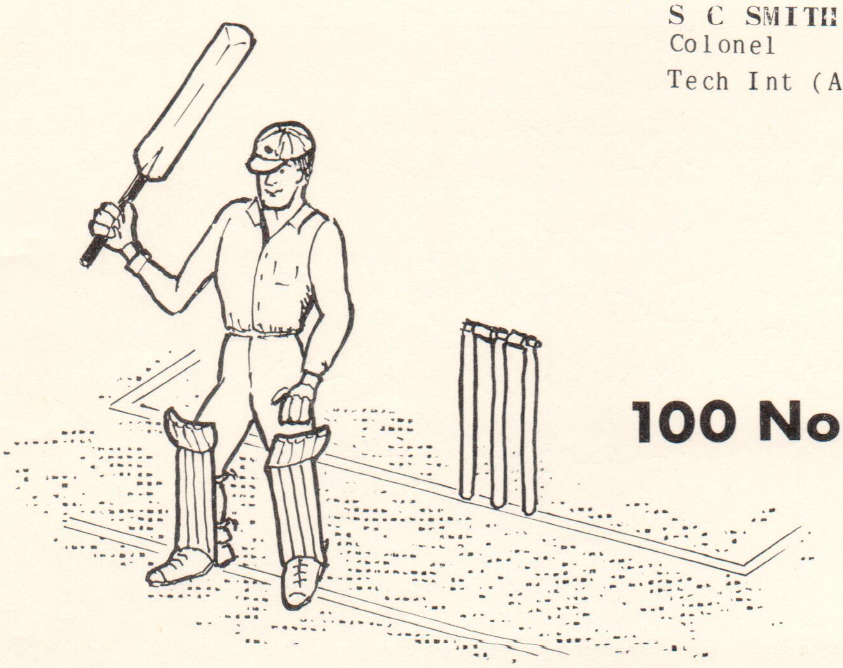
Recent staff changes include the arrival of Major Norman Fincham who now mans the MT and BW/CW desks vice Lt Col Stanley Ball who has departed to command the Port Regiment at Southampton. In a last minute switch of postings Major Keith Ennis arrived from Winnipeg to take over the Engineer desk from Major Sam Dunbar who returns to Ottawa. We understand that Major Ian Ballantyne who was originally nominated for the post is to be congratulated as he is going to SHAPE on promotion instead. We become even more international early next year when Major Bill Titley joins us from Australia via the current Div II Staff Course at RMCS, Shrivenham. He will be taking over the Infantry/Airborne desk next summer.

S C SMITH
Colonel
Tech Int (A)



100 Not out!

1. SOVIET ARTILLERY - Field Guns, Anti Tank Guns and Multiple Rocket Launchers

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SOVIET ARTILLERY

The Soviet have long recognized the value of artillery to meet their mass strike requirement, and they employ large quantitites of nearly every form of artillery weapon. The two most striking differences of Soviet artillery compared to British artillery are the use of multiple rocket launchers and the preference for towed rather than self-propelled guns.

Multiple Rocket Launchers

Multiple rocket launchers were originally developed as equipment to provide a great concentrated weight of fire support that would not only be relatively inexpensive to produce but could be easily maintained and operated by personnel with little training. After the great losses of conventional gun artillery suffered by the Soviets at the hands of the Germans in the campaigns of 1941, rocket launchers were produced and used in large quantities. Even after these gun shortages were overcome, they continued to use multiple rocket launchers in quantity, supplementing their guns and providing rapid area fire concentrations. The latest multiple rocket launcher is the 122 mm BM-21 (Fig 1) which first appeared in 1964 and is the standard equipment of the Soviet tank and motor rifle divisions. One of the three batteries of the rocket launcher battalion of the divisional artillery is capable of saturating a target with 240 rounds in under 30 seconds and then quickly moving out of the launch area to avoid counter bombardment.

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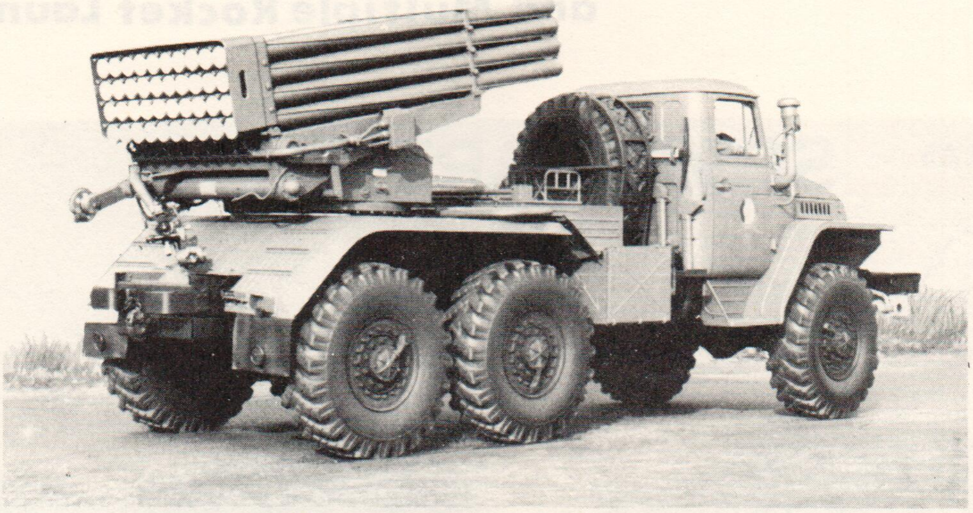

Fig 1. 122 mm Rocket Launcher (40 round) BM-21

Range	20,500 m	(22,400 yd)
Warhead	19.5 kg	(43 lb)
Vehicle	URAL-375	
Reload Time	10-15 min (40 rounds)	

Field Guns

The Soviet preference for towed guns has developed for a number of reasons. True enough, they lack crew protection and cross country mobility. However, the Soviets have gone for firepower and road mobility at the expense of protection since these capabilities best meet their tactical doctrine. Also, a breakdown of a prime mover does not mean the loss of a gun from action. It can simply be hooked up to any appropriate vehicle heading in the right direction and continue on with the battery. Further, towed guns are less expensive to produce and require much less maintenance. Another important characteristic of Soviet guns is the anti-tank direct fire capability. All guns up to and including 152 mm are provided with armour defeating ammunition of the HEAT or AP type.

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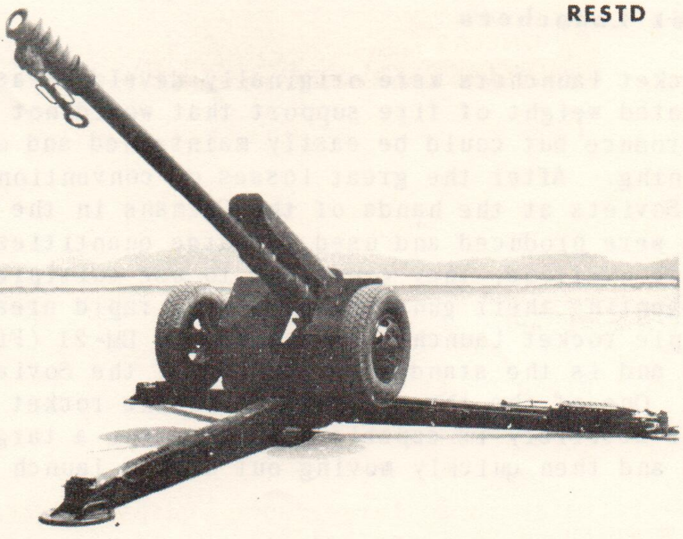

Fig 2. 122 mm Howitzer D-30

122 mm Howitzer D-30 (Continued)

Range maximum.	15,300 m	(16,800 yd)
point blank, 2 m high target, HEAT	800 m	(880 yd)
Projectile HE	21.8 kg	(48 lb)
HEAT	14.1 kg	(31 lb)
Rate of Fire	6-8 rpm	
Armour Penetration 0° at all ranges HEAT	460 mm	(18.1 in)
Detachment	7	

The best example of all round capability is the Soviets latest Howitzer, the 122 mm D-30 (Fig 2) which is standard in the tank and motor rifle division artillery and is replacing the pre-World War II M-30 Howitzer in the motor rifle regiments (MRR). The D-30 can be rapidly emplaced on its three trails giving 360° traverse. It fires separate loading (cartridge case) variable charge ammunition as do the other Soviet guns of 122 to 152 mm calibre.

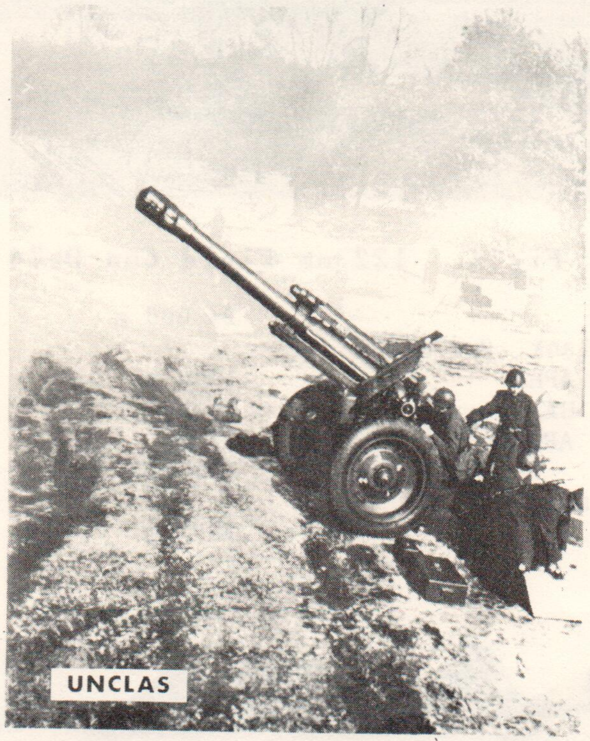

Fig 3. 152 mm Howitzer D-1

Range maximum.	12,400 m	(13,600 yd)
point blank, 2 m high target, Semi AP	510 m	(560 yd)
Projectile HE	40 kg	(88 lb)
Semi AP	51 kg	(112 lb)
Rate of Fire	3-4 rpm	
Armour penetration 0° at 1000 m Semi AP	82 mm	(3.2 in)
Detachment	7	

Because the Soviet Army is so large, some equipments are retained in service for many years. The 152 mm Howitzer D-1 (Fig 3) is the oldest gun in standard service with Soviet forces and was first produced in 1943. It is used in the Motor Rifle Division and in Front level artillery.

Field Guns (Continued)

The Soviets employ considerable amounts of artillery with Army and Front units, and these may be deployed within a Divisional area. In addition to the D-1 used at Front, they use the 122 mm Field Gun D-74 (Fig 4) at Front and the 152 mm Gun/Howitzer D-20 (Fig 5) and 130 mm Field Gun M-46 (Fig 6) at both Army and Front.

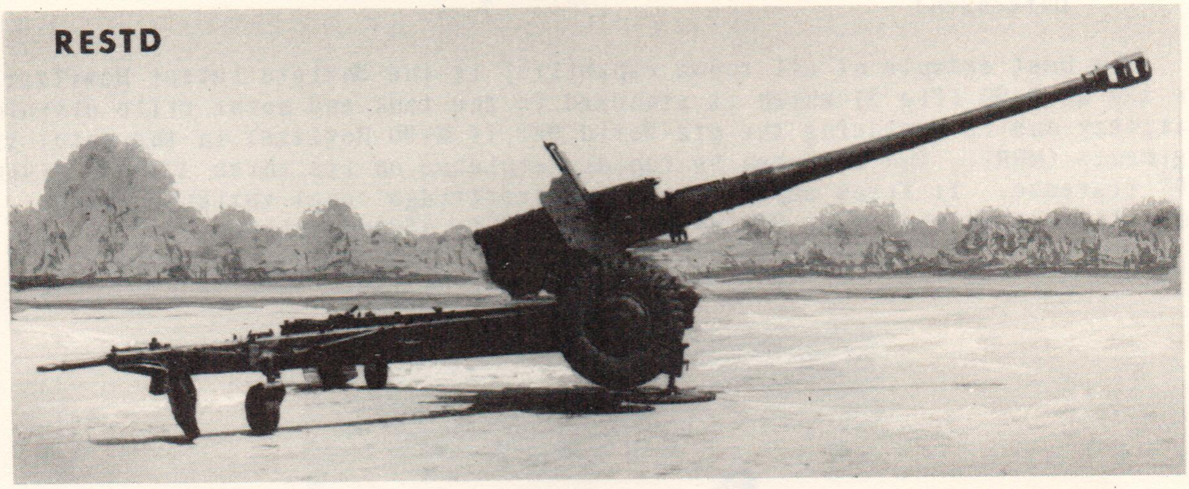

Fig 4. 122 mm Field Gun D-74

Range maximum.	24,000 m	(26,300 yd)
point blank, 2 m high target, APHE	1200 m	(1,310 yd)
Projectile HE	25 kg	(55 lb)
APHE	25 kg	(55 lb)
Rate of Fire	6-7 rpm	
Armour Penetration 0° at 1000 m APHE	230 mm	(9 in)
Detachment	8	

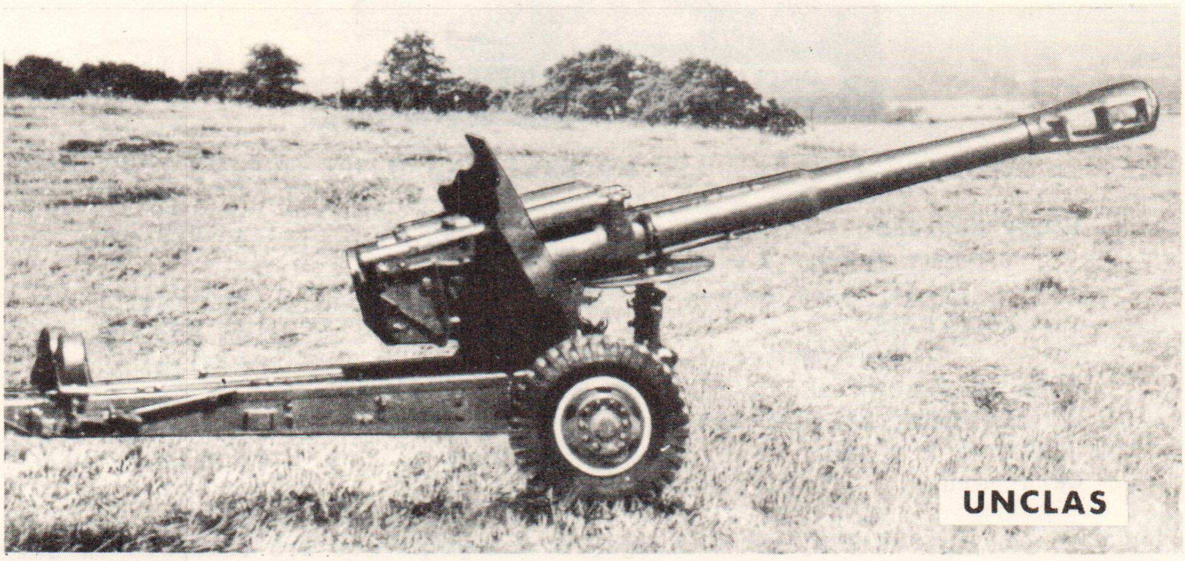

Fig 5. 152 mm Gun/Howitzer D-20

152 mm Gun/Howitzer D-20 (Continued)

Range maximum.	17,200 m	(18,800 yd)
point blank, 2 m high target, APHE	800 m	(880 yd)
Projectile HE	43.6 kg	(96 lb)
APHE	49 kg	(108 lb)
Rate of Fire	4 rpm	
Armour Penetration 0° at 1,000 m APHE	124 mm	(4.9 in)
Detachment	9	

These latter three guns are products of the mid-1950's. The D-74 and D-20 look similar and do in fact use the same carriage, breech mechanism and similar recoil systems which allows some added economy of production and maintenance. The M-46 is the Soviets long range fire support and counter bombardment gun. Because of its accuracy, it is very effective at long ranges. The use of separate loading ammunition (cartridge case) and sliding wedge breech block permits a relatively high rate of fire.

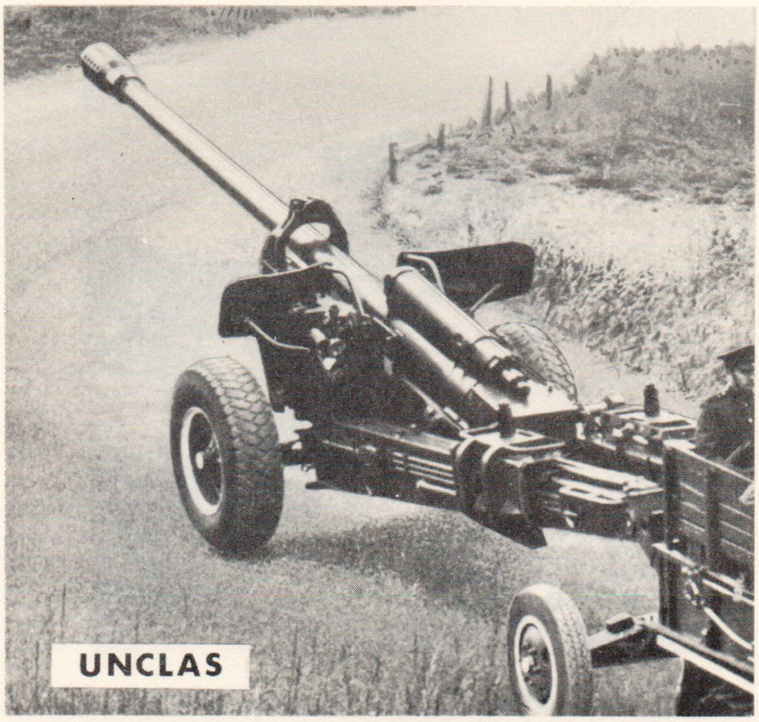

Fig 6. 130 mm Field Gun M-46

Range maximum.		27,000 m	(29,600 yd)
point blank, 2 m high target, APHE		1,170 m	(1,280 yd)
Projectile	HE	33.6 kg	(74 lb)
	APHE	33.6 kg	(74 lb)
Rate of Fire		5-6 rpm	
Armour Penetration 0° at 1,000 m APHE		200 mm	(7.9 in)
Detachment		9	

Anti-Tank Guns

Additional short to medium range anti-tank protection is provided in the motor rifle division anti-tank battalion by 100 mm guns which complement the medium to long range ATGW of the same battalion. These guns effectively increase the motor rifle division's anti-tank capability. The anti-tank guns in the motor rifle divisions are one equipment that seem to be replaced quite often. The Soviets have produced three different 100 mm guns in about 20 years. The first was produced in 1944 and was replaced in 1955. The 100 mm Field Gun M-1955 then became the standard gun and is still seen in wide service. The M-1955 has the same performance, fires the same basic ammunition as the M-1944, but is a lighter weapon which improves its mobility and handling. The latest gun, the 100 mm Anti-Tank Gun T-12, came in about 10 years later and is replacing the M-1955. These two look similar, but the T-12 can be distinguished by its parallel sided muzzle brake and its larger, squared off breech ring. The T-12 undoubtedly fires improved ammunition giving considerably greater armour penetration and point blank range.

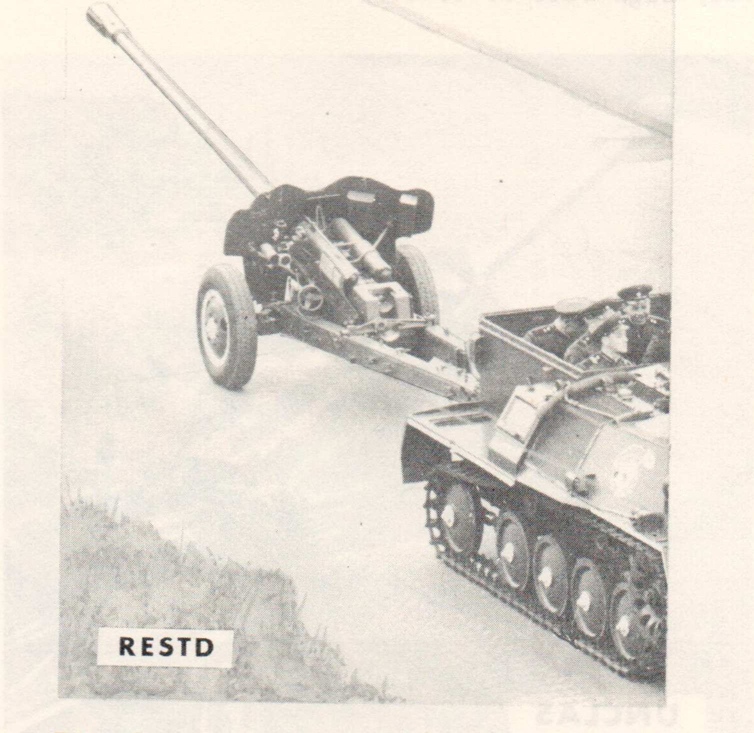

Fig 7. 100 mm Field Gun M-1955

Range maximum.	21,000 m	(23,000 yd)
point blank, 2 m high target APHE	1,080 m	(1,180 yd)
Projectile	HE APHE	
Rate of Fire	8-10 rpm	
Armour Penetration 0° at 1000 m APHE	185 mm	(7.3 in)
Detachment	6	

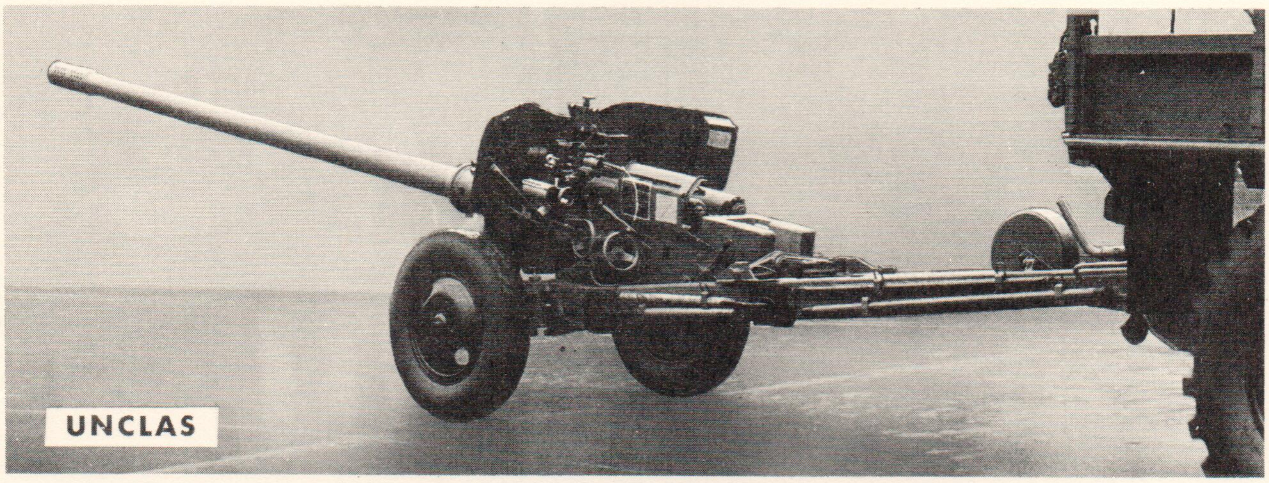

Fig 8. 100 mm Anti-Tank Gun T-12

Range-point blank, 2 m high target APFSDS	1500 m (est)	(1640 yd)
Projectile	HEAT APFSDS	
Rate of Fire	8-10 rpm	
Armour Penetration 0° all ranges HEAT	400 mm	(15.75 in)
Detachment	6	

Weapon Locations within the Soviet Organisation

Weapon	Motor Rifle Division		Tank Division		Army (a)	Front
	Div Arty	MRR	Div Arty	MRR		
100 mm Field Gun M-1955 or 100 mm Anti-Tank Gun T-12	18					
122 mm Rocket Launcher (40rd) BM-21	18		18			
122 mm Howitzer D-30	36	18	54	6		
122 mm Field Gun D-74						18
130 mm Field Gun M-46					36	54
152 mm Howitzer D-1	18					54
152 mm Gun/Howitzer D-20					18	36

(a) Not normally in Tank Army

These multiple rocket launchers and towed guns complement each other meeting the Soviet requirement by providing substantial fire support and at the same time being simple, rugged, and reliable.

2. Non Soviet Warsaw Pact, Yugoslav & CHICOM Infantry Anti Tank Weapons

General

This article is a follow up to the article on Soviet Infantry Anti-Tank Weapons which appeared in ATIR No 99 dated April 1971.

Although some of the Warsaw Pact countries produce their own anti-tank weapons they all use a selection of the Soviet ones especially the Soviet Anti-Tank Hand Grenades and the RPG 7. In some cases these countries manufacture their own copies of the Soviet weapons. Communist China has also copied many. This article will deal only with weapons which are designed and manufactured in the country concerned and are not copies of Soviet equipment.

ANTI-TANK RIFLE GRENADES

POLISH ANTI TANK RIFLE GRENADE - PGN 60

Poland and Yugoslavia are the only European Communist countries to equip their forces with rifle grenades. The PGN 60 is fired from an attachment on the muzzle of the Polish produced 7.62 mm Assault Rifle PMK-DGN.

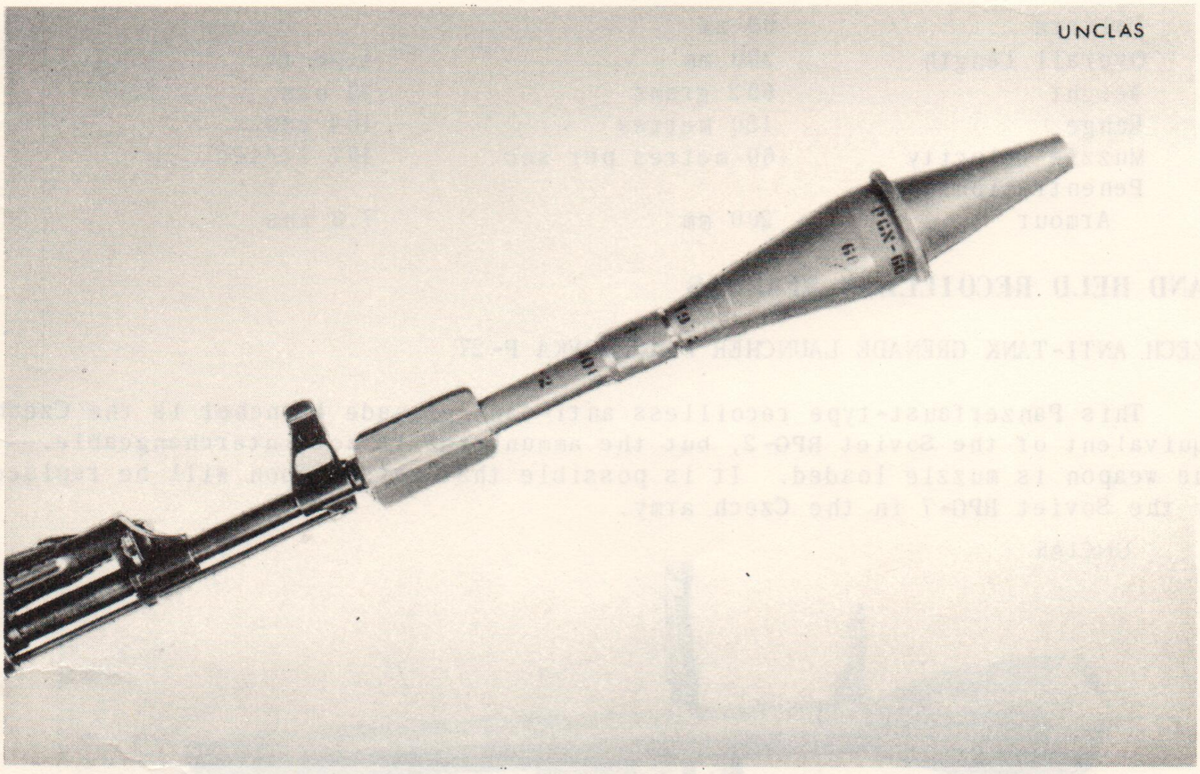

Fig 1. Polish PGN-60 Rifle Grenade

Characteristics

Length	406 mm	16 ins
Weight	580 grams	1.3 lbs
Type of Warhead	HEAT	
Range	100 metres (approx)	110 yds (approx)
Penetration of Armour	100 mm (approx)	3.94 ins (approx)

The Grenade is fin stabilised.

YUGOSLAV ANTI-TANK RIFLE GRENADE M-60

This rifle grenade is fired from a spigot at the end of the barrel of either the Yugoslav 7.62 mm Semi-automatic Carbine M59 or their new 7.62 mm Automatic Rifle M-64 series of weapons. The grenade has a shaped charge HEAT warhead.

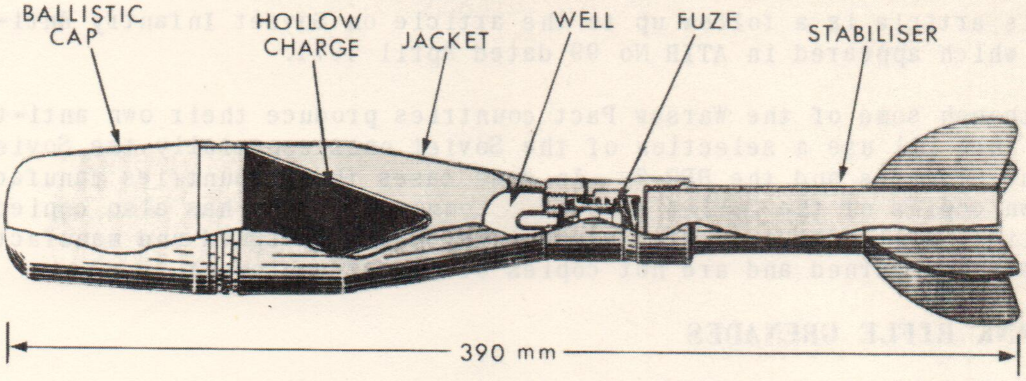

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Fig 2. Yugoslav M-60 Rifle Grenade

Characteristics

Calibre	60 mm	
Overall length	390 mm	1.28 ft
Weight	602 grams	21 ozs
Range	150 metres	164 yds
Muzzle velocity	60 metres per sec	197 ft/sec
Penentration of Armour	200 mm	7.8 ins

HAND HELD RECOILLESS WEAPONS

CZECH ANTI-TANK GRENADE LAUNCHER PANCEROVKA P-27

This Panzerfaust-type recoilless anti-tank grenade launcher is the Czech equivalent of the Soviet RPG-2, but the ammunition is not interchangeable. The weapon is muzzle loaded. It is possible that this weapon will be replaced by the Soviet RPG-7 in the Czech army.

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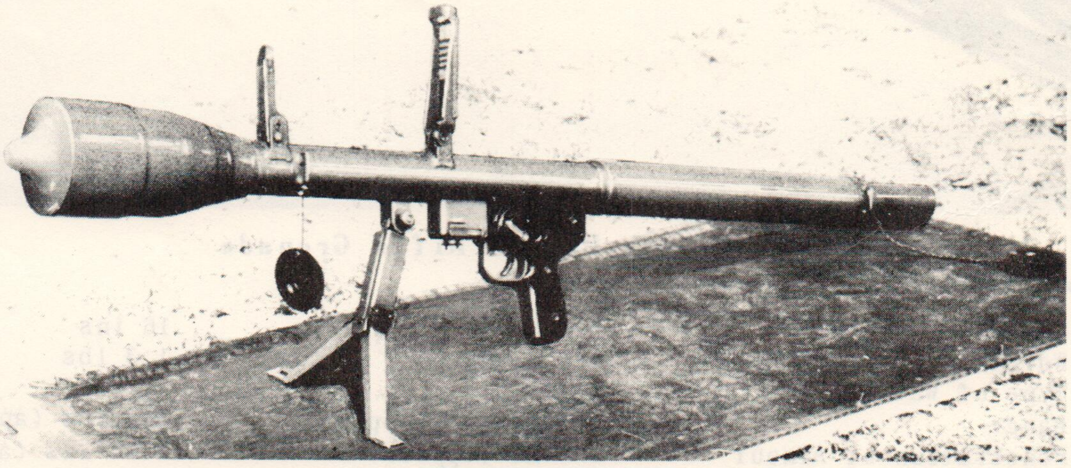

Fig 3. Czech P-27 Pancerovka Grenade Launcher

Czech Anti-Tank Grenade Launcher PANCEROVKA (Continued)

Characteristics

Calibre (Launcher)	45 mm	
(Projectile)	120 mm	
Length of Launcher	1030 mm	42 ins
Wt of launcher	6.4 kg	14.1 lbs
Wt of projectile	3.8 kg	7.27 lbs
Muzzle velocity	140 metres/sec	559 ft/sec
Max effective range against armour	100 m	110 yds
Ammunition	HEAT	
Penetration of Armour	170-250 mm	6.7-9.8 ins

YUGOSLAV 44 mm ANTI-TANK LAUNCHER M57 (RB-57)

This weapon is similar in appearance to the Czech P-27 and is also of the Panzerfaust type.

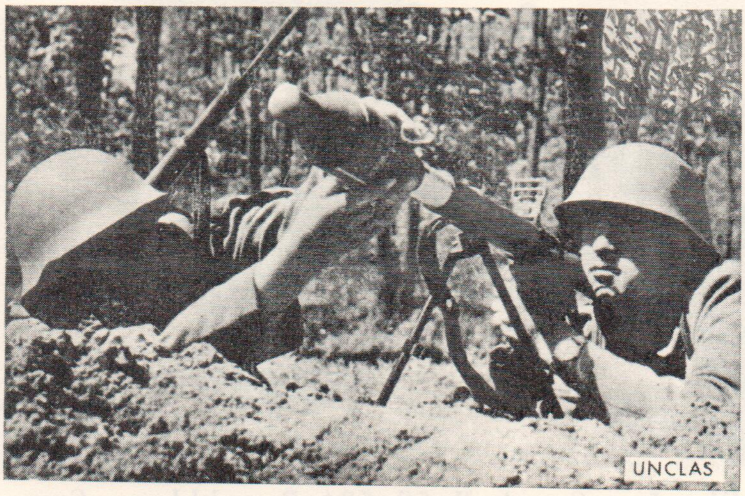

Fig 4. Yugoslav M-57 (RB-57) Launcher

Characteristics

Calibre (Launcher)	44 mm	
(Projectile)	90 mm	
Length of launcher	960 mm	3.2 ft
Wt of launcher	8.2 kg	18 lbs
Wt of projectile	2.4 kg	5.28 lbs
Muzzle velocity	145 metres/sec	478 ft/sec
Max effective range against armour	200 m	220 yds
Ammunition	HEAT	
Penetration of Armour	300 mm	12 ins

TOWED RECOILLESS ANTI-TANK GUNS

CZECH 82 mm RECOILLESS GUN M-59 and M-59A

The Czech 82 mm Recoilless Gun M-59 which has a smooth exterior chamber section was first seen in 1960. In 1961 a modified version, the M-59A with a ribbed exterior chamber section for better heat dissipation was sighted. The characteristics apply to both weapons. The weapon fires an HE as well as a HEAT round and may be used for either direct or indirect fire. Fire control is by optical or iron sights in conjunction with a 12.7 mm semi-automatic spotting rifle for ranging. The weapon is normally towed behind a vehicle or Armoured Personnel Carrier but it has been seen on the top of APC's and inside light trucks and amphibious vehicles.

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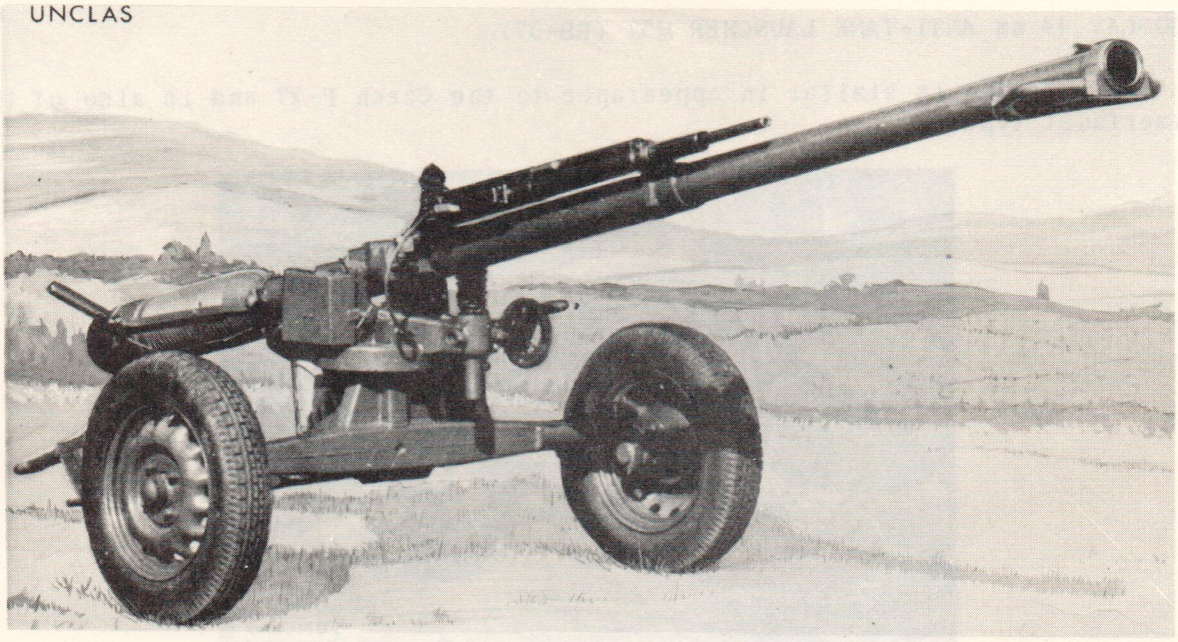

Fig 5. Czech M-59-59A Recoilless Gun

Characteristics

Calibre	82 mm	
Length of weapon	4280 mm	14.1 ft
Overall weight	386 kg	851 lb
Muzzle velocity HE	565 metres/sec	1854 ft/sec
HEAT	745 metres/sec	2444 ft/sec
Max range HE	7560 metres	8271 yds
Effective AT range HEAT	1200 m	1315 yds
Wt of projectile	6.4 kg approx	14 lbs approx
Penetration of Armour	250 mm	9.9 ins

YUGOSLAV 82 mm RECOILLESS GUN M-60

The M-60 is a light mobile anti-tank weapon which fires a fin stabilised projectile. It can be used against tanks or ground targets.

Yugoslav 82 mm Recoilless Gun M-60 (Continued)

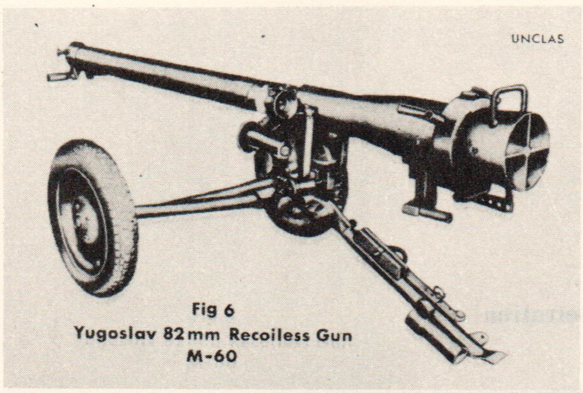

Fig 6
Yugoslav 82mm Recoiless Gun
M-60

Characteristics

Calibre	82 mm	
Length of weapon	2200 mm	7.22 ft
Overall weight	122 kg	269 lbs
Muzzle velocity	380 metres/sec	1250 ft/sec
Effective range HEAT	1000 m	1100 yds
Wt of projectile	8.2 kgs approx	18 lbs approx
Penetration of Armour	220 mm	9 ins

CHICOM 75 mm RECOILLESS RIFLE TYPE 56

The Chicom 75 mm Recoilless Rifle Type 56 is almost an identical copy of the US M20 with a few modifications. There are two types of ammunition HE and HEAT. The weapon is widely distributed throughout the Middle East and Africa as well as in SE Asia.

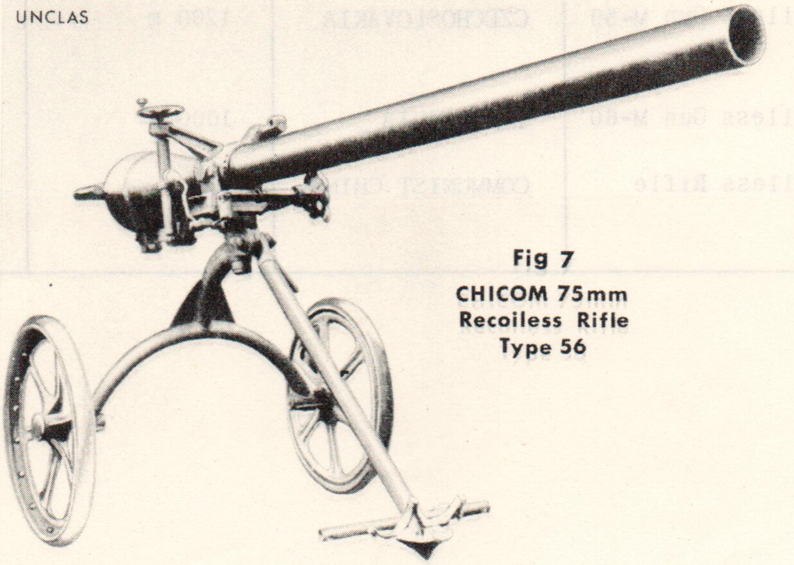

Fig 7
CHICOM 75mm
Recoiless Rifle
Type 56

Characteristics

Calibre		75 mm	
Length of weapon		2132 mm	83.5 ins
Overall weight		85.1 kg	187.5 lb
Approx Muzzle velocity			
	HEAT	305 metres/sec	1000 ft/sec
Max range	HE	6675 m	7300 yds
Effective range	HEAT	800 m	877 yds
Wt of Projectile		9.1 kg approx	20 lbs approx
Penetration of Armour	HEAT	228 mm	9 ins

Summary of Range and Penetration

Weapon	Country of Origin	Range against armour	Penetration of armour
PGN-60 Anti-Tank Rifle Grenade	POLAND	100 m approx	100 mm
M-60 Anti-Tank Rifle Grenade	YUGOSLAVIA	150 m	200 mm
P-27 Anti-Tank Grenade Launcher	CZECHOSLOVAKIA	100 m	170-250 mm
44 mm Anti-Tank Launcher RB-57	YUGOSLAVIA	200 m	300 mm
82 mm Recoilless Gun M-59 and M59A	CZECHOSLOVAKIA	1200 m	250 mm
82 mm Recoilless Gun M-60	YUGOSLAVIA	1000 m	220 mm
75 mm Recoilless Rifle Type 56	COMMUNIST CHINA	800 m	228 mm

3. SOVIET TRACKED PRIME MOVERS

The Soviet Army has, in the past, placed great reliance on the tracked prime mover. It has been used to provide artillery tractors for the whole range of artillery, to provide the basis of field engineer equipment and plant, and to provide the basis of field engineer equipment and plant, and to provide logistic transport for personnel and cargo over awkward terrain such as the Far North and Soviet Far East. Since the mid-60s a range of high mobility 8 x 8 wheeled prime movers has been developed. In some instances and in certain special applications these wheeled prime movers have taken over some of the roles previously occupied by the tracked prime movers. Nevertheless the tracked prime mover continues to hold a position of importance in the Soviet Army.

AT-P Tracked Artillery Tractor - Armoured

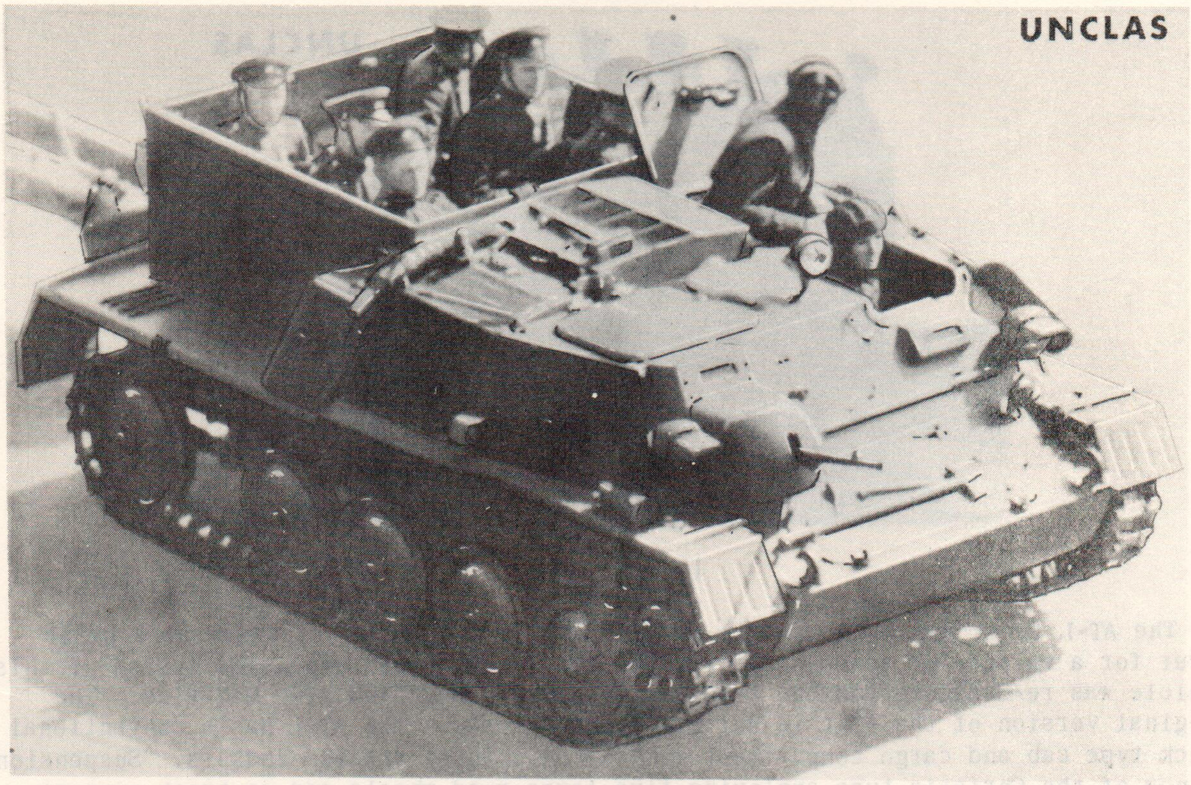

Fig 1. AT-P (Basic Version)

The AT-P which appeared in 1956, is a light, armoured, tracked prime mover originally designed to tow the 85 mm and 100 mm anti-tank guns and to transport their detachments. The basic version has an open troop compartment and an armoured compartment for the driver and commander. More recent versions of the AT-P have a raised cupola for the commander and an armoured roof which provides some degree of overhead cover for the troop compartment. A second modification with a full width troop compartment has also been seen.

AT-P Tracked Artillery Tractor (Continued)

Technical Characteristics AT-P

Payload (Personnel)	3 + 6	
Towed load	3,500 kg	3.5 T
Maximum speed	60 kph	38 mph
Cruising range	300 km	186 miles
Length	4,054 mm	13.3 ft
Weight	6,300 kg	6.3 T
Engine	110 hp diesel	

AT-L Tracked Artillery Tractor - Light

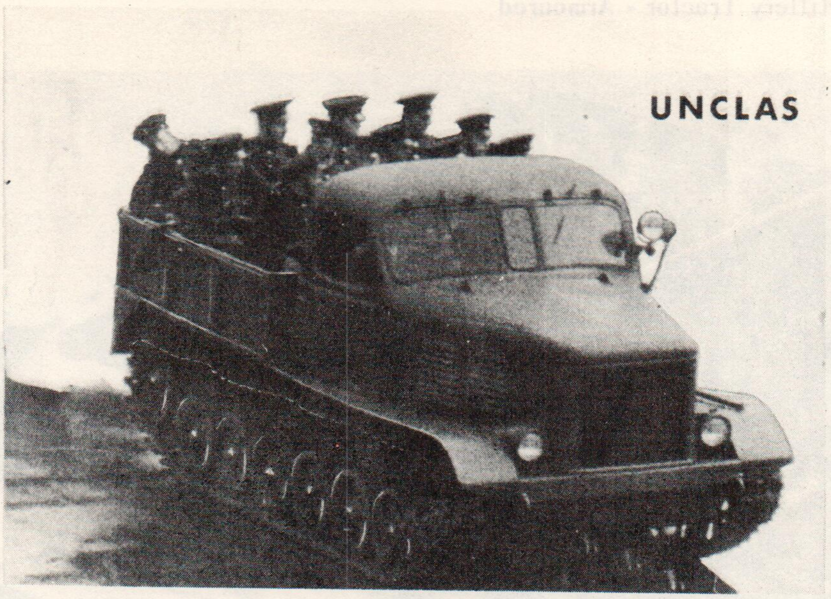

Fig 2. AT-L

The AT-L first appeared in 1953 and was used for a number of years as a prime mover for a variety of weapons and equipment. In 1956 the suspension system of this vehicle was re-designed and the resultant vehicle designated AT-L Modified. The original version of the AT-L is not often encountered. The AT-L has a conventional truck type cab and cargo compartment mounted on a fully tracked chassis. Suspension is now of the Christie type employing five large road wheels and no track support rollers. Its role as a gun tower has largely been taken over first by the ZIL-157 and more recently, by the URAL-375, but is still used as a general purpose tractor.

Technical Characteristics AT-L

Payload	2,000 kg	2 T
Payload (Personnel)	3 + 8	
Towed Load	6,000 kg	6 T
Maximum speed	42 kph	26 mph
Cruising range	400 km	250 miles
Length	5,310 mm	16.7 ft
Weight	6,300 kg	6.3 T
Engine	135 hp diesel	

AT-S Tracked Artillery Tractor - Medium

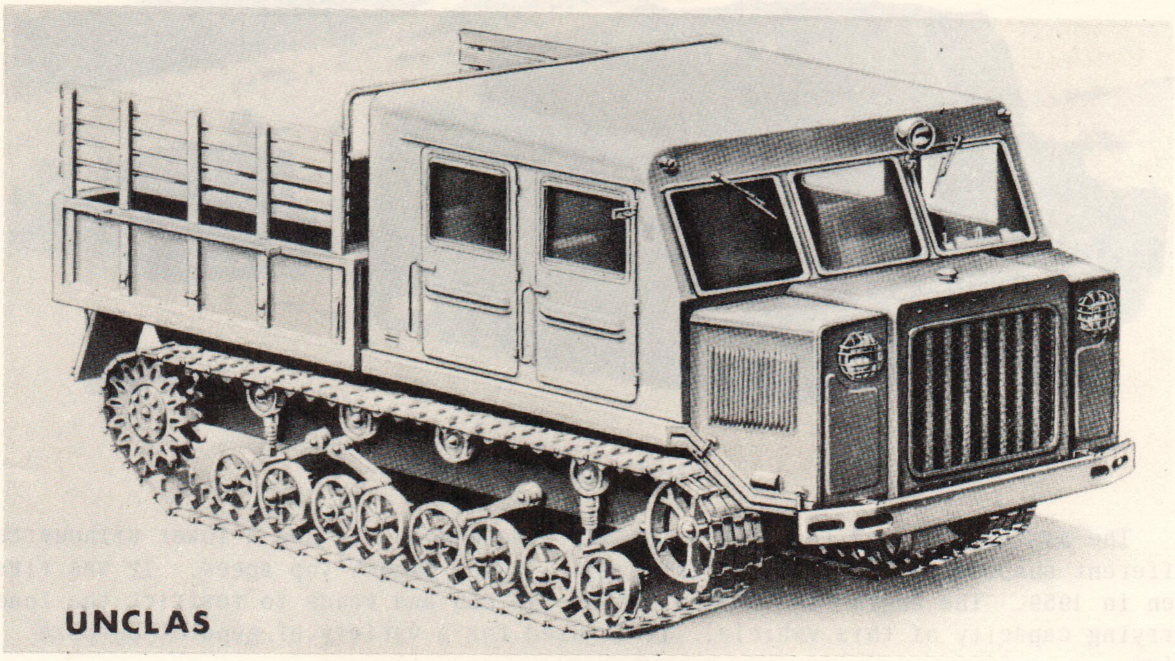

Fig 3. AT-S

The AT-S which entered service in 1954, is the standard Soviet medium tracked prime mover. It is capable of towing a wide range of medium and heavy field artillery. It is used as a mount for the 240 mm rocket launcher, various electronic equipments and as a mount for a bulldozer blade. It has a drive sprocket at the rear which makes it unique amongst Soviet tracked prime movers. The cab is well forward and the engine compartment protrudes forward of the leading edge of the track. It has a very distinctive angular appearance.

Technical Characteristics - AT-S

Payload	3,000 kg	3 T
Payload (Personnel)	7 + 10	
Towed load	14,000 kg	14 T
Maximum speed	35 kph	22 mph
Cruising range	300 km	180 miles
Length	5,970 mm	19.3 ft
Weight	12,000 kg	12 T
Engine	275 hp V12 diesel	

ATS-59 Tracked Artillery Tractor - Medium

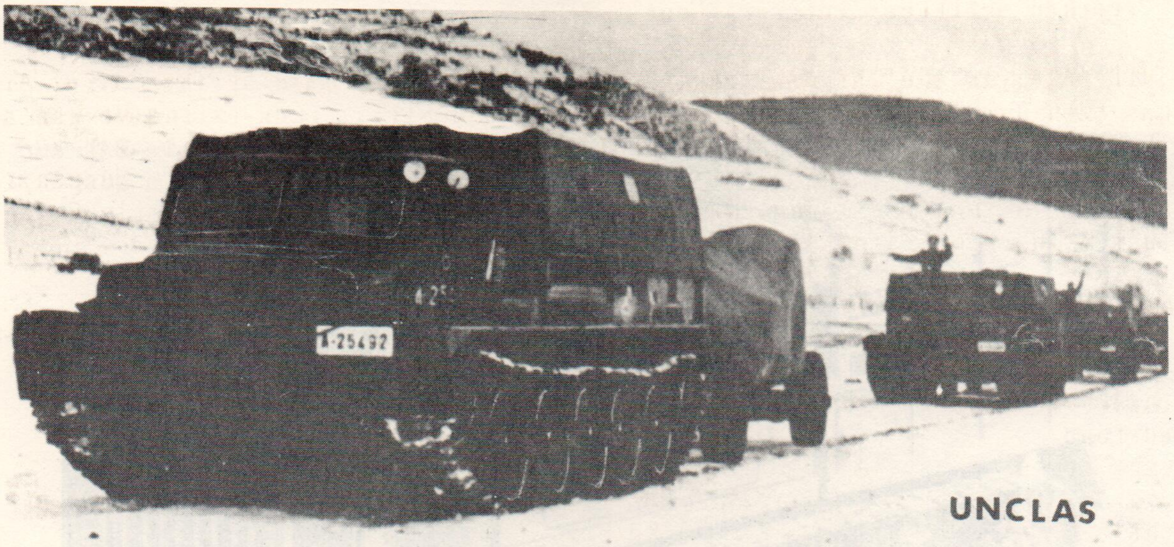

Fig 4. ATS-59

The ATS-59 followed the AT-S as an improved model. It has a lower silhouette, different suspension, a more powerful engine, and a higher top speed. It was first seen in 1959. The engine is located behind the cab and tends to restrict the load carrying capacity of this vehicle. It is used for a variety of general purpose roles.

Technical Characteristics - ATS-59

Payload	3,000 kg	3 T
Payload (Personnel)	2 + 14	
Towed load	14,000 kg	14 T
Maximum speed	39 kph	25 mph
Cruising range	350 km	220 miles
Length	6280 mm	20.7 ft
Weight	13,000 kg	13 T
Engine	300 hp V12 diesel	

AT-T Tracked Artillery Tractor - Heavy

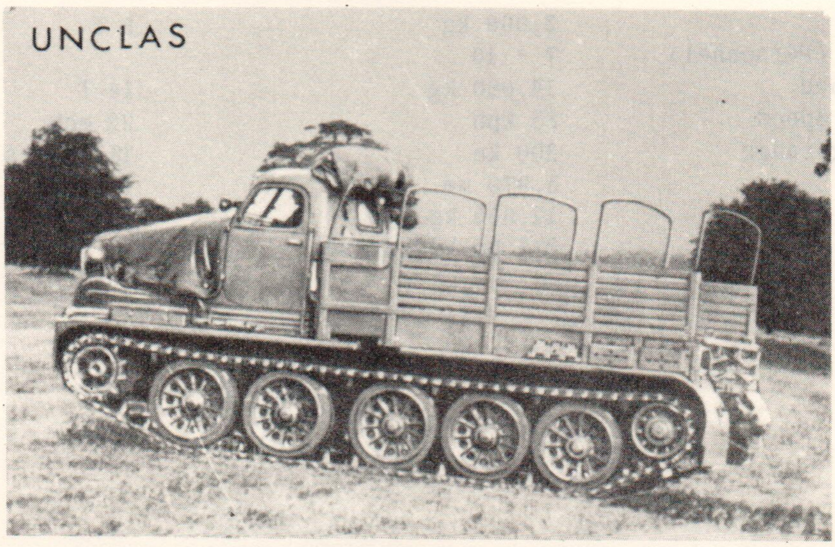

Fig 5. - AT-T

AT-T Tracked Artillery Tractor (Cont'd)

The AT-T is the largest tracked artillery tractor used by the Soviet Army. It has been used to tow a range of artillery and still finds extensive use as the basis for specialised engineer vehicles such as the BTM, MDK-2, BAT and BAT/M. In addition it has carried field artillery radar sets. Its suspension is similar to the ATS-59 and the AT-L and this similarity sometimes leads to confusion in recognition of this vehicle.

Technical Characteristics - AT-T

Payload	5,000 kg	5T
Payload (Personnel)	4 + 16	
Towed load	25,000 kg	25T
Maximum speed	35 kph	22 mph
Length	6,990 mm	22.8 ft
Weight	20,000 kg	20T
Engine	415 hp V12 diesel	

GT-S Tracked Transporter - Medium

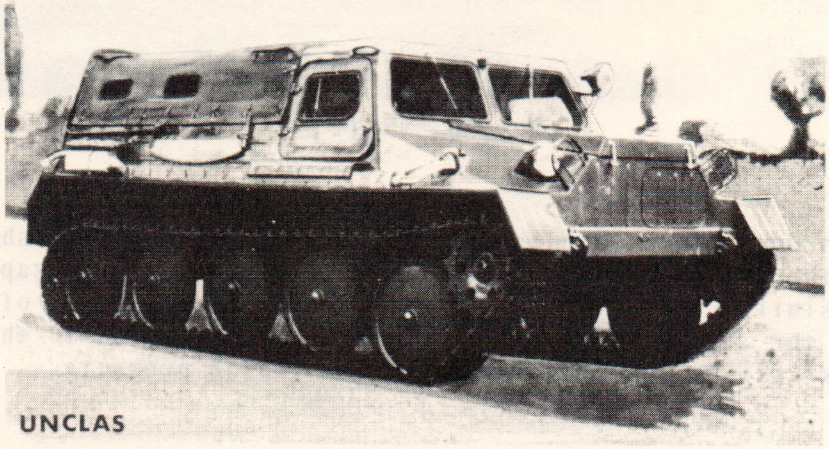

Fig 6 GT-S

This vehicle is a light, fully-tracked transporter with a low ground pressure designed to carry personnel or equipment across marshy ground or over snow. It is amphibious using its tracks for propulsion. It is used in the Soviet Army as a gun tower, personnel and logistic carrier, and as a recce vehicle in the Far North and Soviet Far East. Newer and more powerful versions of the GT-S have also been produced and are in use in the Soviet Forces.

Technical Characteristics - GT-S

Payload	1,000 kg	1T
Payload (Personnel)	2 + 9	
Maximum speed	35 kph	22 mph
Cruising range	700 km	435 miles
Length	4,900 mm	16 ft
Weight	3,650 kg	3.65T
Engine	85 hp petrol	

GT-T Tracked Transporter

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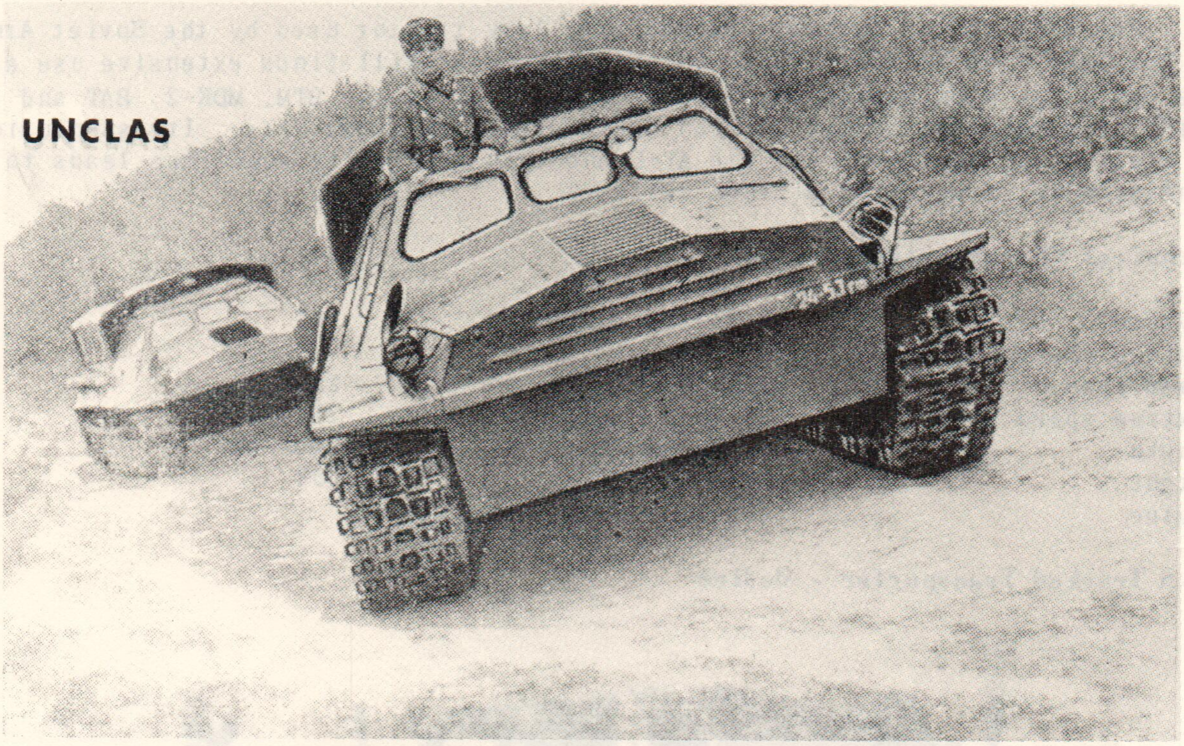


Fig 7. GT-T

This is an amphibious load carrier primarily for use in marshy and swampy areas such as the Soviet North and Far East, with an over snow capability. Its roles are similar to the smaller GT-S. There are a variety of body styles appropriate to the actual role. The running gear is similar to the PT-76 but has wider tracks giving approximately half the ground pressure.

Technical Characteristics

Payload	2,000 kg	2T
Payload (Personnel)	3 + 10	
Towed load	4,000 kg	4T
Maximum speed	45 kph	27 mph
Cruising range	500 km	310 miles
Length	6,500 mm	21.5 ft
Weight	10,200 kg	10.2T
Engine	200 hp diesel	

4. New East German Decontamination Equipment

DA-66

The East German Army have introduced the DA-66 decontamination equipment. (Fig 1).

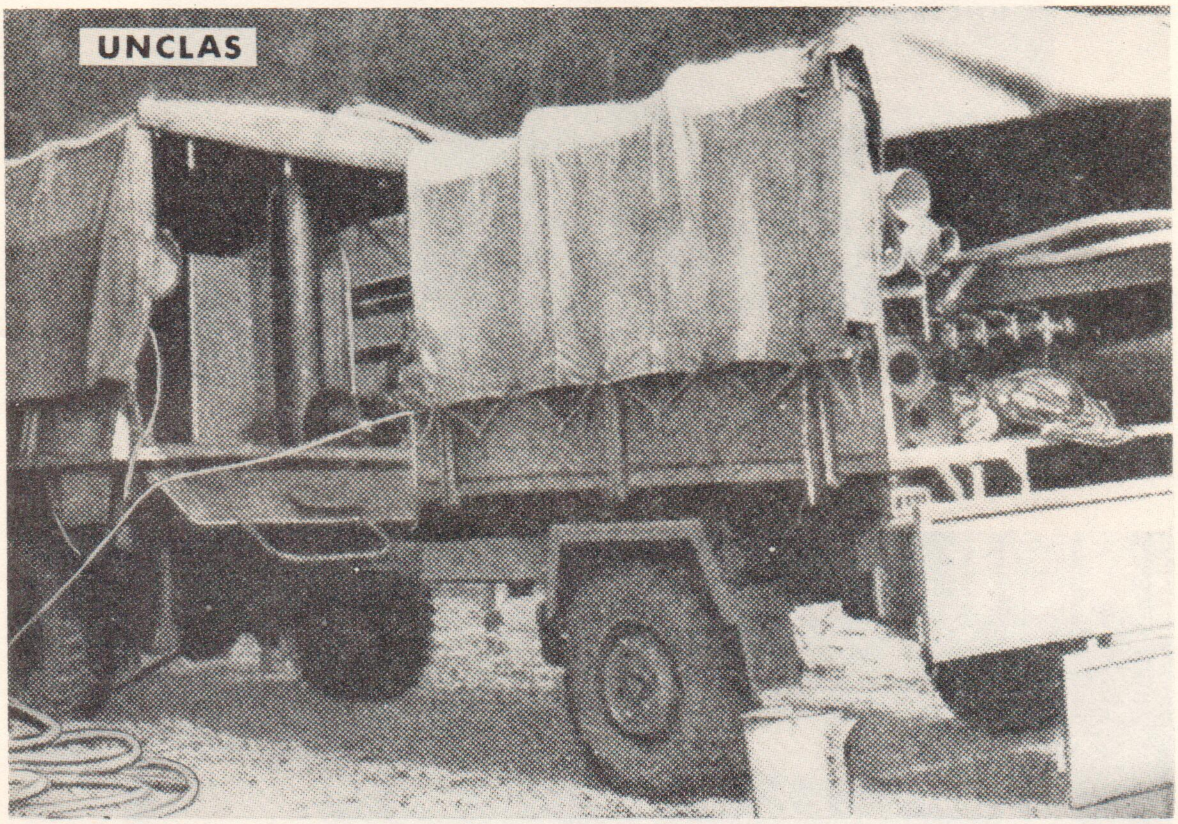


Fig 1. DA-66 Decontamination Equipment Ready for the Road

This is mounted on the East German vehicle LO-1800A, and is considered to be the replacement or a replacement for the much bulkier DA-2-S (Fig 2) which is mounted on a G5 chassis with a much larger shower trailer. The DA-66 is a considerable improvement upon the DA-2-S. The improvements are as follows:

a. It has a larger capacity
b. It requires less maintenance
c. It can be established and erected much quicker
d. It has a lower fuel oil consumption
e. An improved cross-country performance
f. It is much lighter
g. It is cheaper

The photography shows the DA-66 (Fig 3, page 24) on arrival at the site and shows quite clearly the comparison with the DA-2-S.

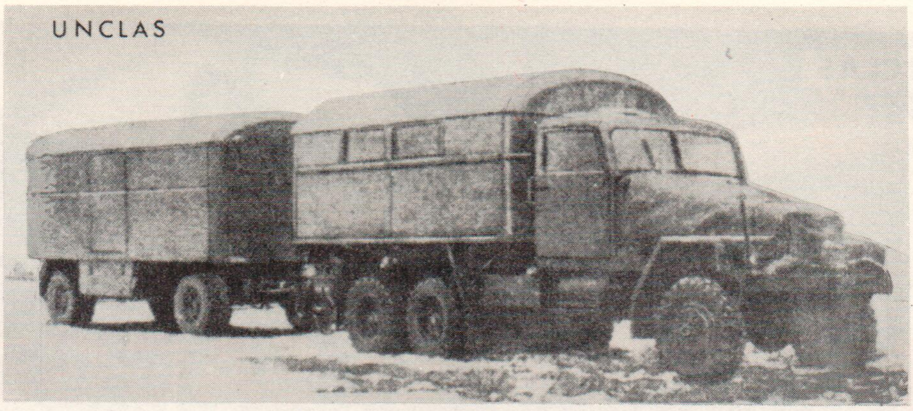


Fig 2. DA-2-S. The forerunner of the DA-66

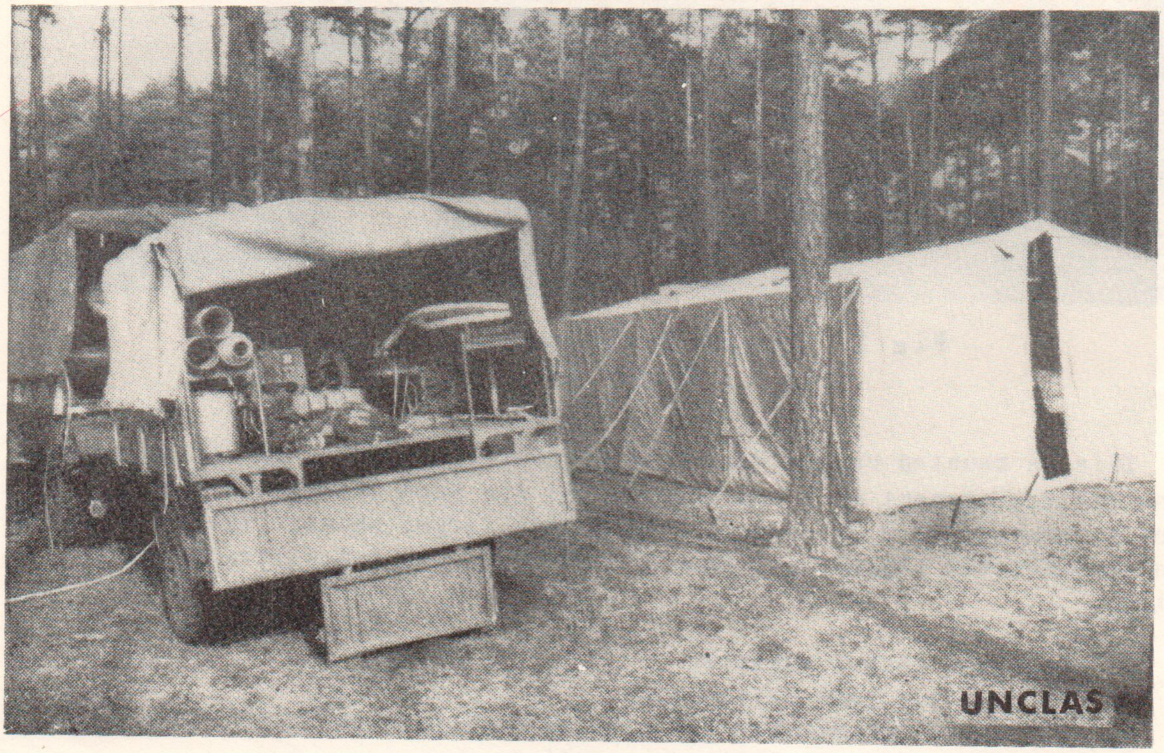


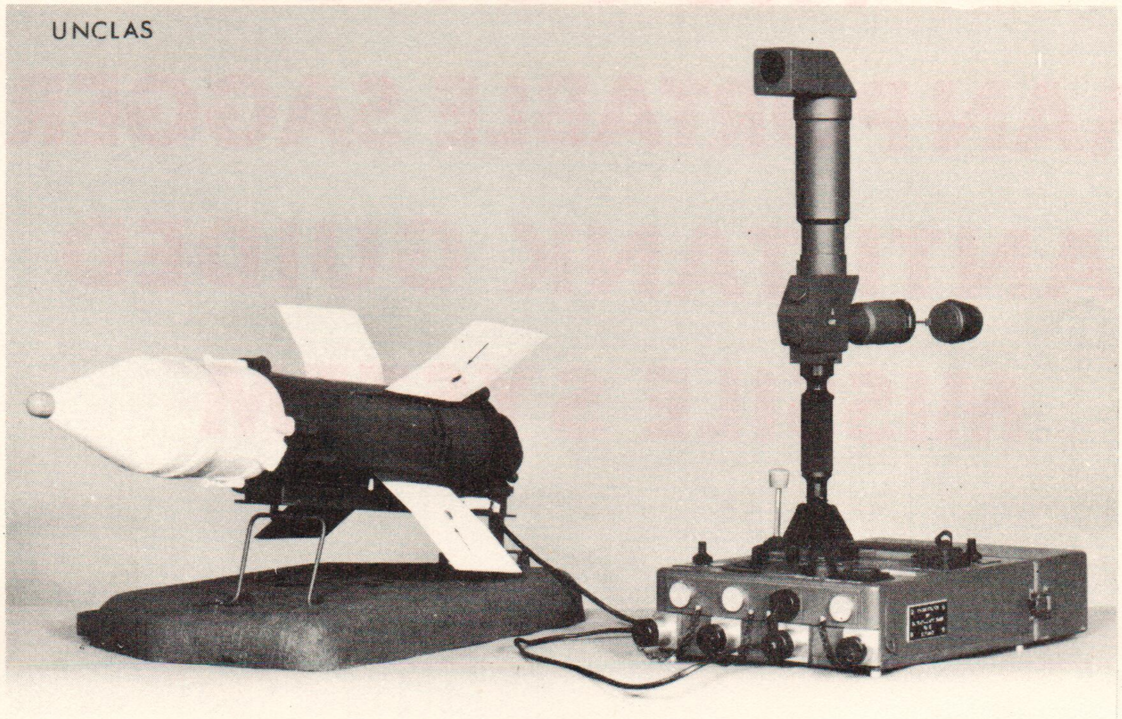
Fig 3. DA-66 Erected and Ready for Use

5.

THE SOVIET MAN PORTABLE SAGGER ANTI TANK GUIDED MISSILE SYSTEM

The Warsaw Pact Motor Rifle Battalions have several of their own organic Anti Tank weapons. These are integrated into the overall Anti Tank Defence Plan with the additional weapons allocated from their parent Motor Rifle Regiments.

The Battalion's Long Range Weapon is...



Missile and Control Unit

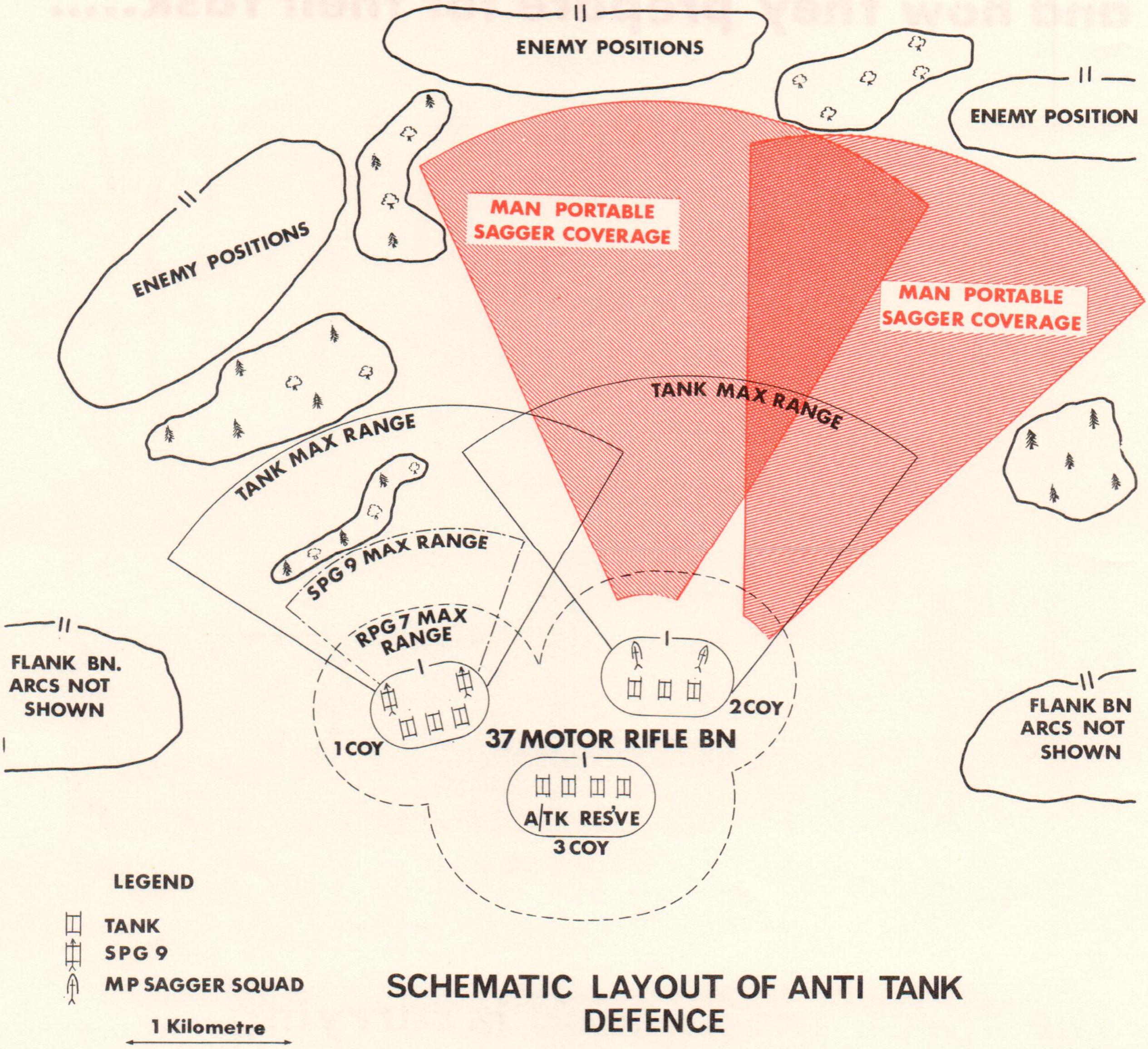
... MAN PORTABLE SAGGER

Range	**500-3000metres**
W/hd	**HEAT**
Weight	**25 lb**
Length	**35 in**
Control	**Command Line of Sight, Wire Guided**

The next few pages show how the Battalion MAN PORTABLE SAGGER Squads fit into this overall Anti Tank Defence Plan, and how they prepare for their task.....

The Anti Tank Plan....

This is the Battalion Commander's Anti Tank Plan to meet the expected enemy Counter Attack.


ENEMY POSITIONS
ENEMY POSITION
ENEMY POSITIONS
MAN PORTABLE SAGGER COVERAGE
MAN PORTABLE SAGGER COVERAGE
TANK MAX RANGE
TANK MAX RANGE
SPG 9 MAX RANGE
RPG 7 MAX RANGE
FLANK BN. ARCS NOT SHOWN
FLANK BN ARCS NOT SHOWN
1 COY
2 COY
37 MOTOR RIFLE BN
A/TK RESVE
3 COY
LEGEND
TANK
SPG 9
MP SAGGER SQUAD
1 Kilometre

SCHEMATIC LAYOUT OF ANTI TANK DEFENCE

Approach....

As soon as the Battalion Commander has made his plan the MAN PORTABLE SAGGER squads proceed to their alloted areas. When they are close to their position they dismount from their vehicles and cover the last few yards on foot....

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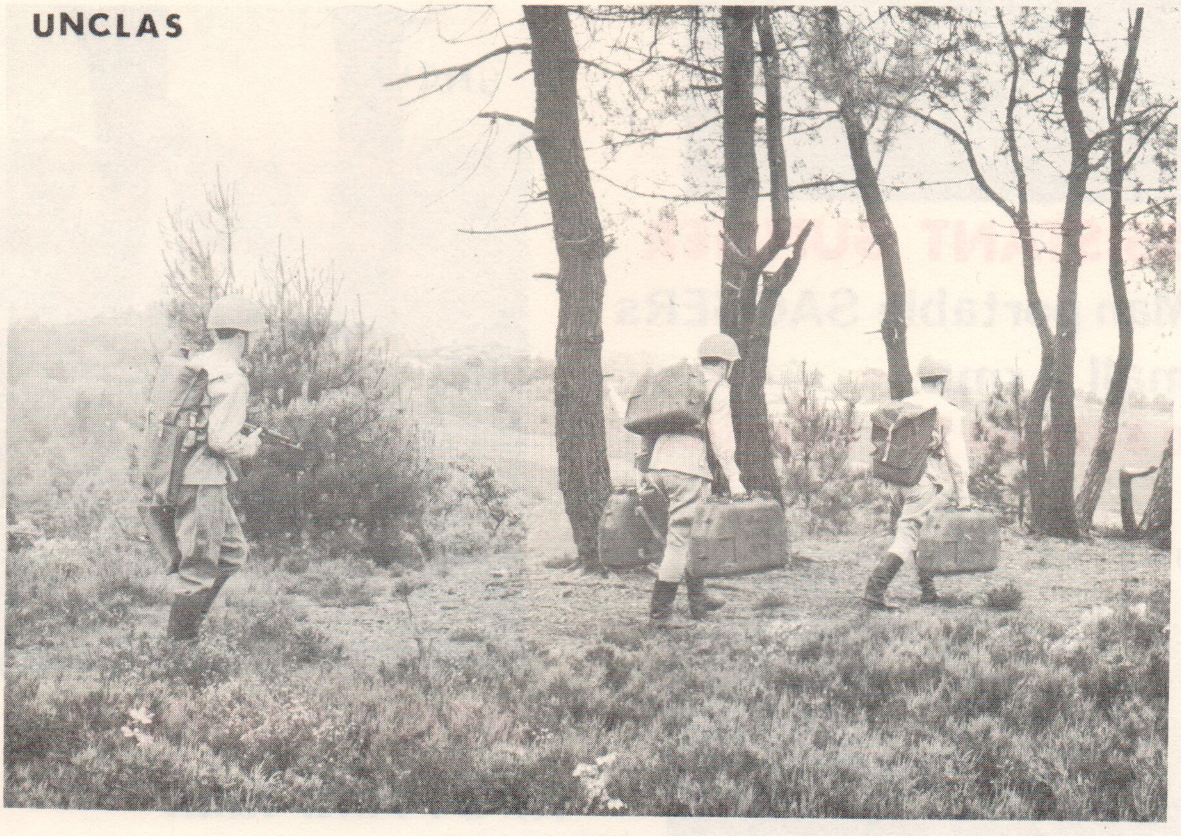
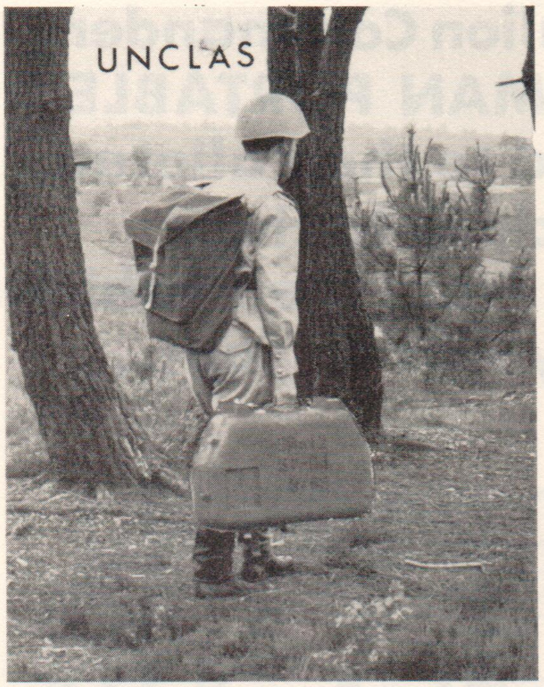


THE SAGGER SQUAD

The three man squad is carrying....

Equipment...



SENIOR GUNNER

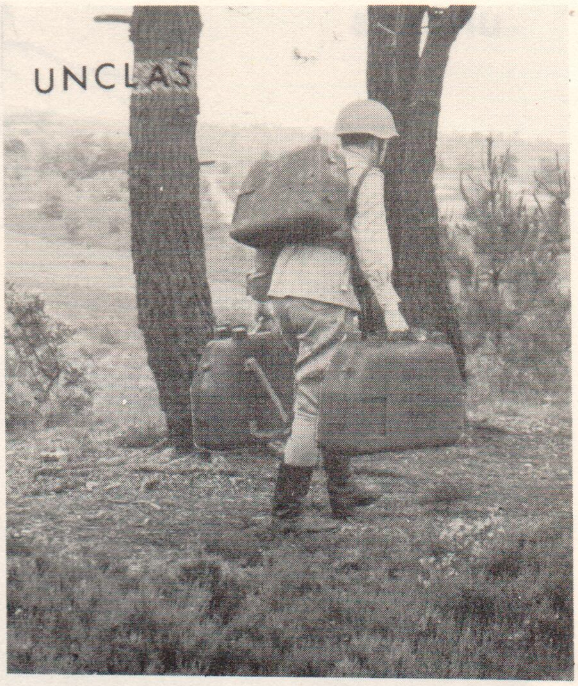
Control Unit
1 Man portable SAGGER
Small Arms

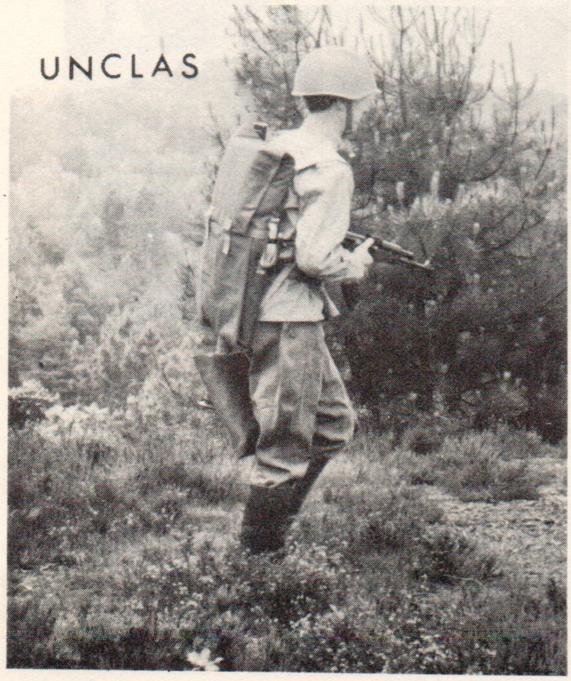
He fires and guides the missiles

ASSISTANT GUNNER

3 Man portable SAGGERs
Small Arms

He sets up the missiles





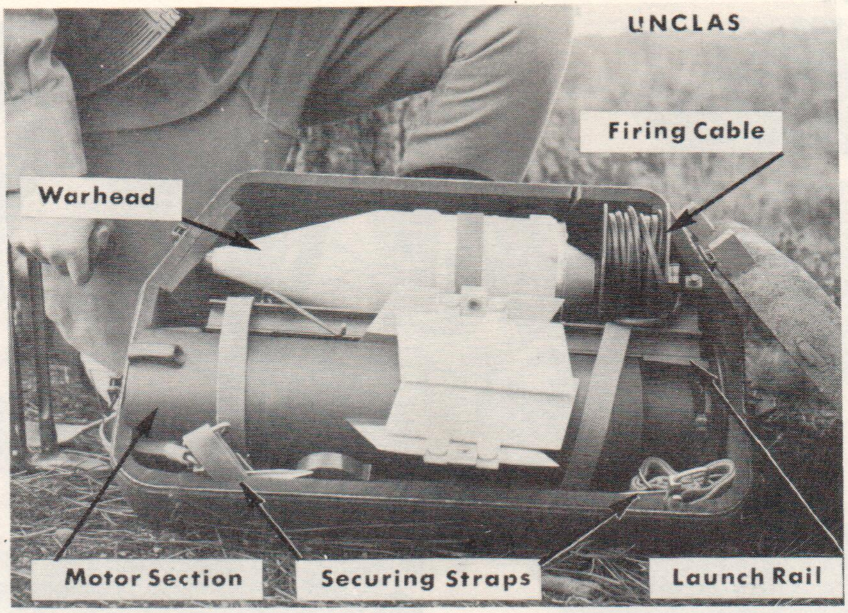
RPG7 GUNNER

RPG 7 Anti Tank Grenade Launcher
RPG 7 Ammunition
Small Arms

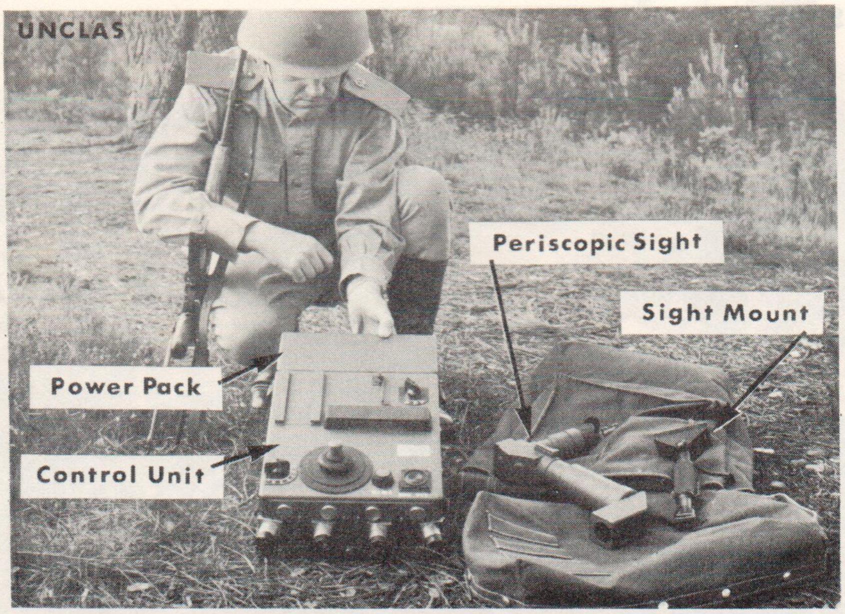
He covers the "dead ground" of SAGGER

Equipment

Each MAN PORTABLE SAGGER carrying case contains a missile and its launch rail. The lid of the case is the launcher base.


UNCLAS
Firing Cable
Warhead
Motor Section
Securing Straps
Launch Rail

The Control Unit and Sight breaks down for carrying in its Satchel


UNCLAS
Periscopic Sight
Sight Mount
Power Pack
Control Unit

Orders...

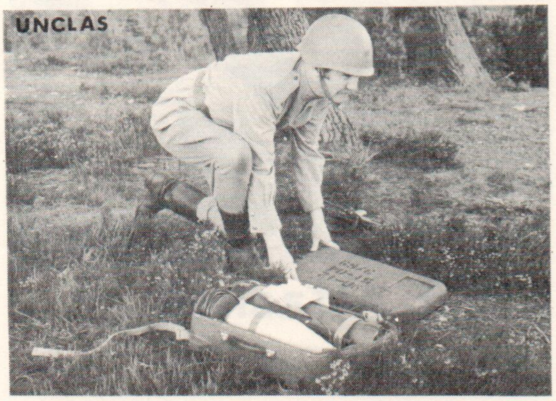
When the Squad reaches the position the Senior Gunner explains the Anti Tank Plan....

...and points out the terrain

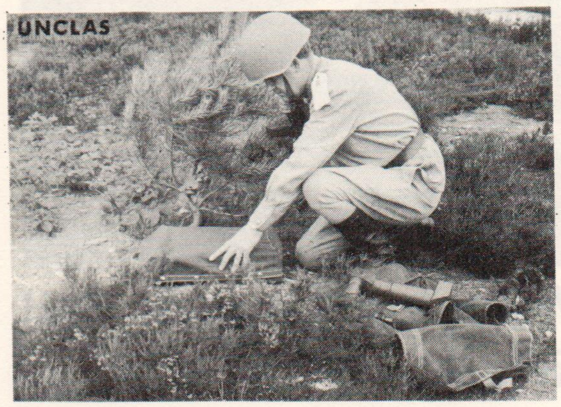
The Squad is now ready for....

Action!

5 seconds

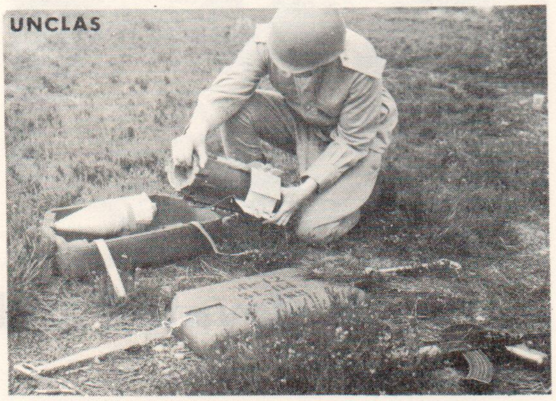


Lid off, Lined up

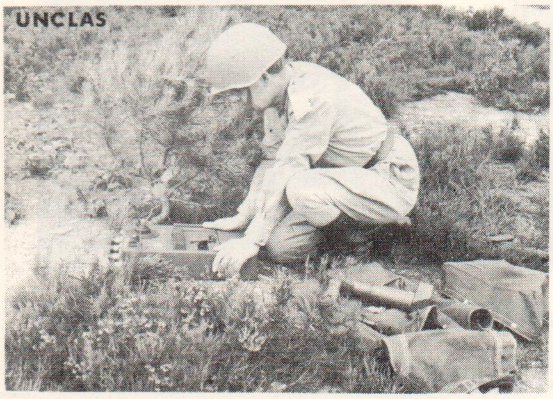


Control Unit out of Pack

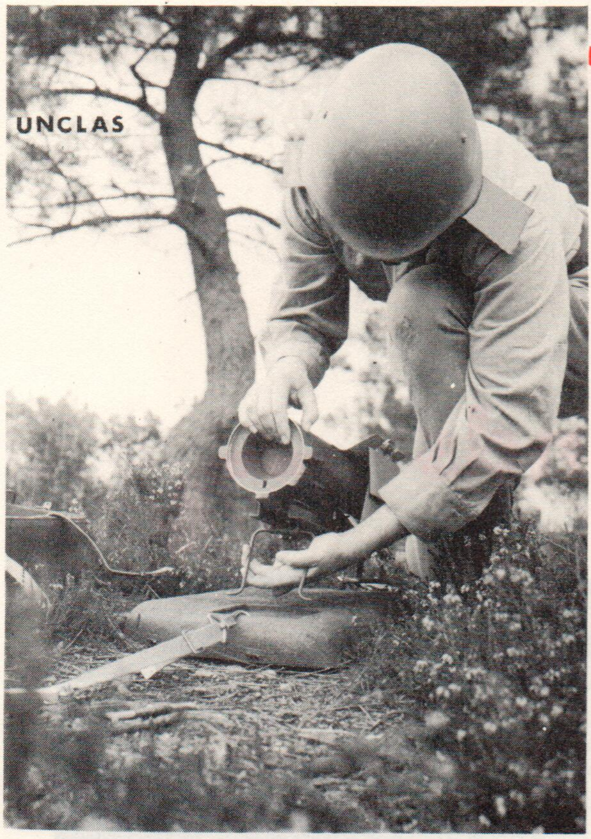
15 seconds



Lid staked, Motor Section out

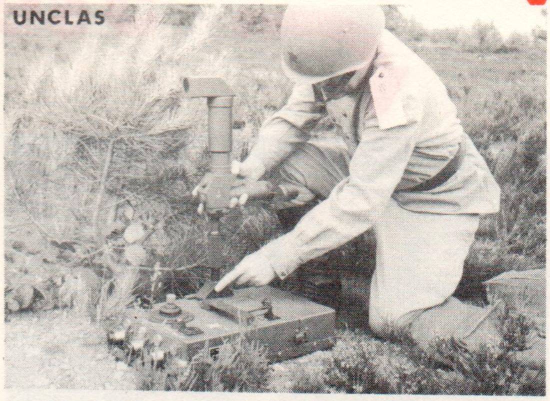


Control Unit lined up in position



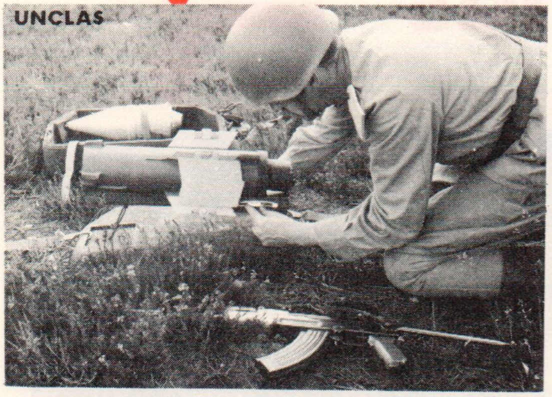
Motor and Launch Rail fitted

20 Seconds

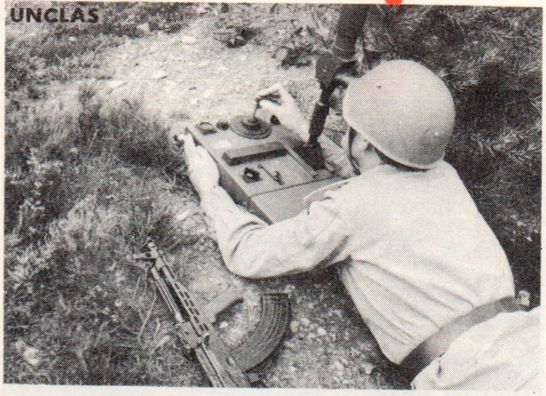


Sight Attached

30 seconds

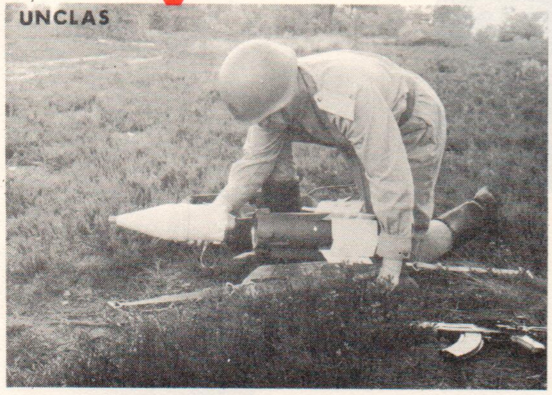


Launch Rail elevation checked

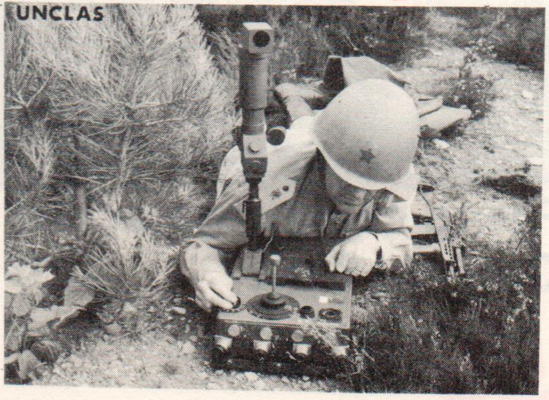


Joystick elevated and checked

35 seconds

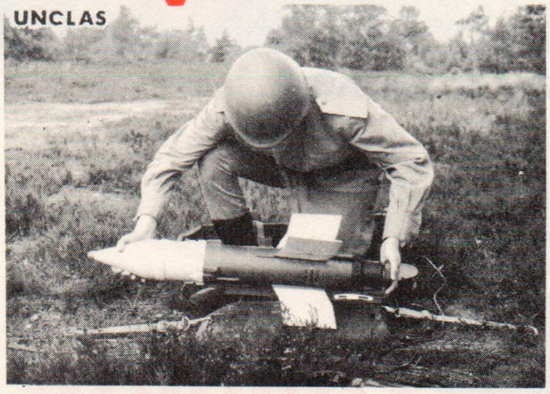


Warhead on

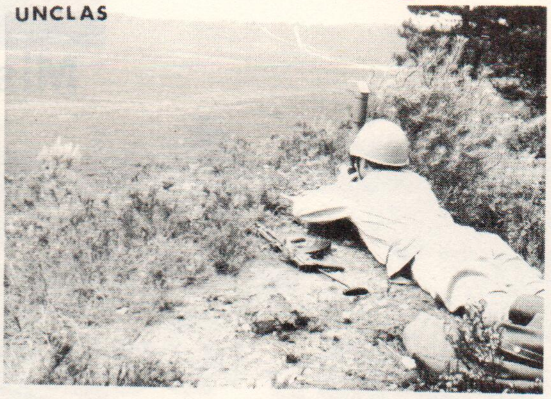


Control Unit tested

45 seconds



Firing Cable connected
Fins up



Sight lined up and
locked

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50 seconds

Firing cable connected to Control Unit

UNCLAS

55 seconds

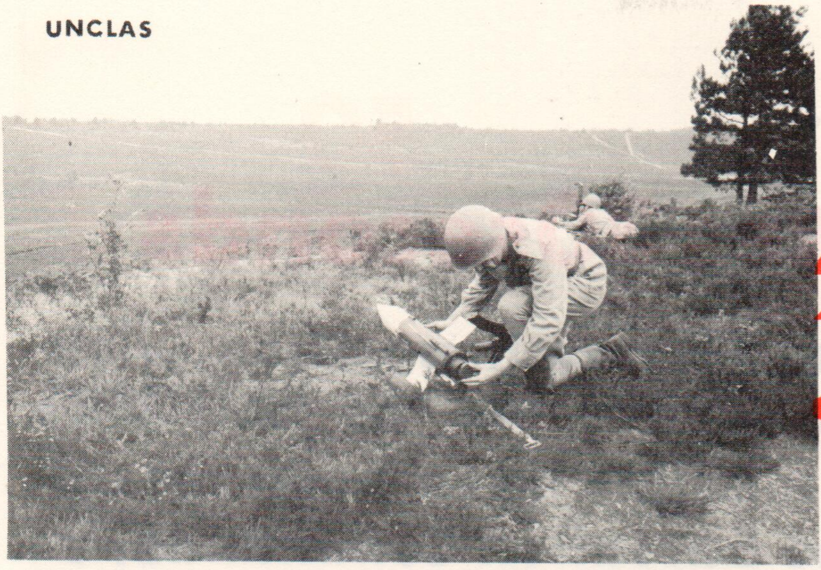
Missile lay checked

UNCLAS

1 minute

First Missile tested, Operator ready for action

UNCLAS

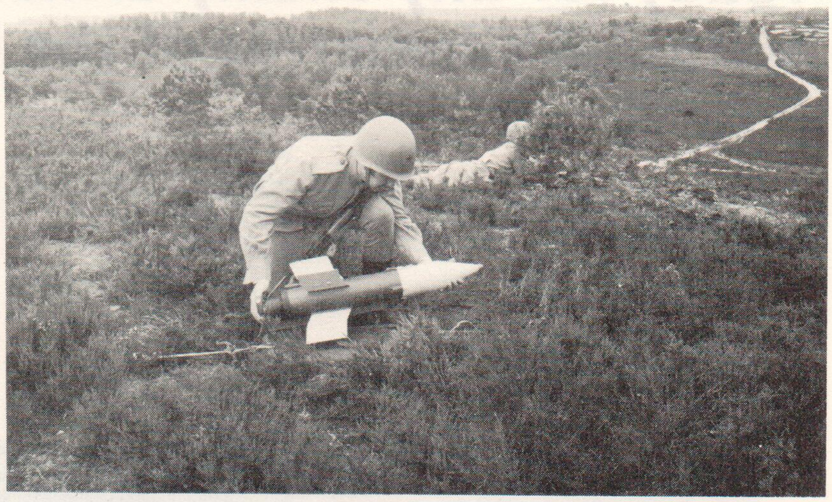


2 minutes

Missile Nº2 set up

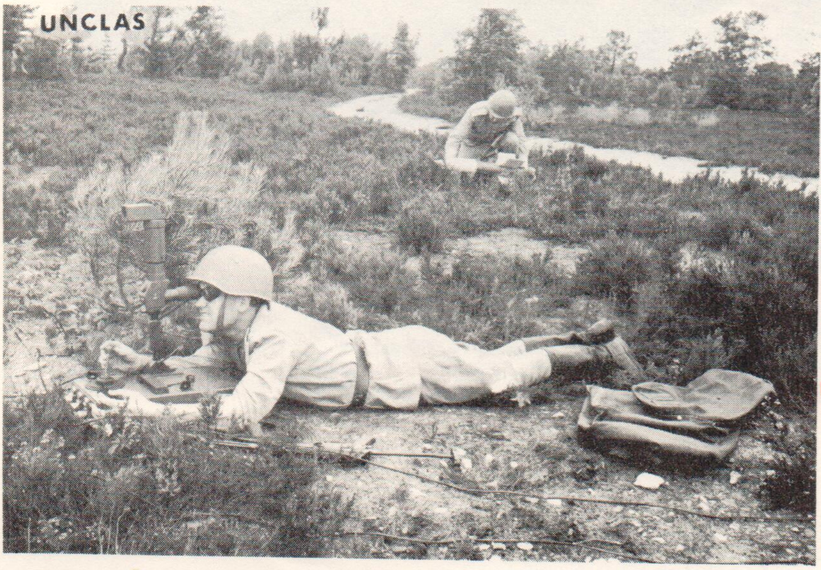
UNCLAS

3 minutes



Missile Nº3 set up

UNCLAS



4 minutes

Missile Nº4 set up

TOTAL TIME.....

4 minutes 30 seconds

The whole squad is now in position, with the RPG 7 Gunner covering the SAGGER's deadground. 4 missiles have been set up according to the Battalion Commander's plan, and the anti-tank defence is now ready for any enemy armour appearing within 3 kilometres of the Battalion.

UNCLAS

The photography in the previous pages was by courtesy of the TECH INT (ARMY) Demonstration Team who ....

UNCLAS
Not My Idea of a Model

.... were invited by the GW Desk Officer "to come down to the woods to be photographed with some models".

6. Soviet Army Equipment Quiz

Some more teasers for you. Five out of seven is pretty good. If you got them all correct, you either cheated or there may be a place for you in TECH INT (A).

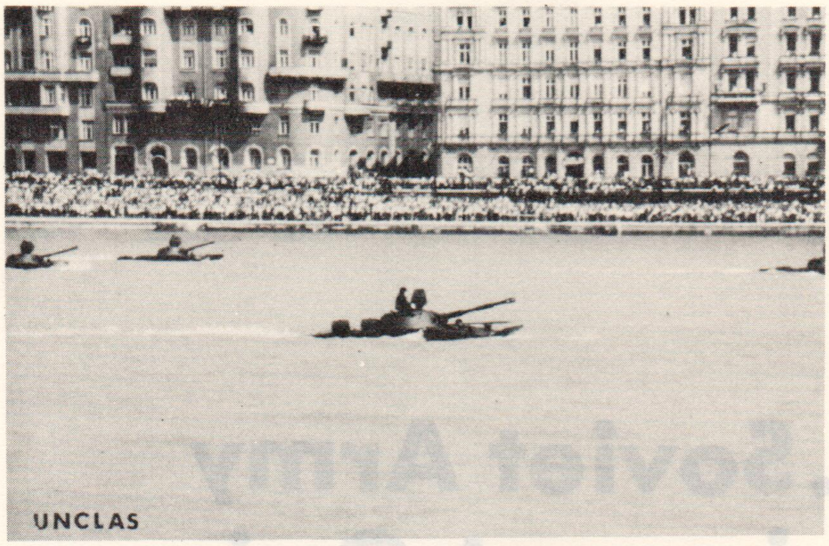


Fig 1. Regimental sail past, but what are they?

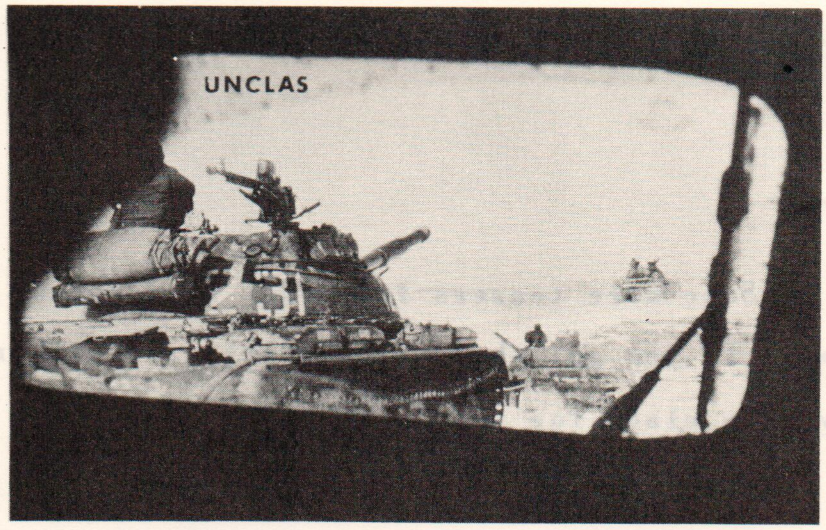


Fig 2. A quick glance in your rear view mirror - Friend or Foe?

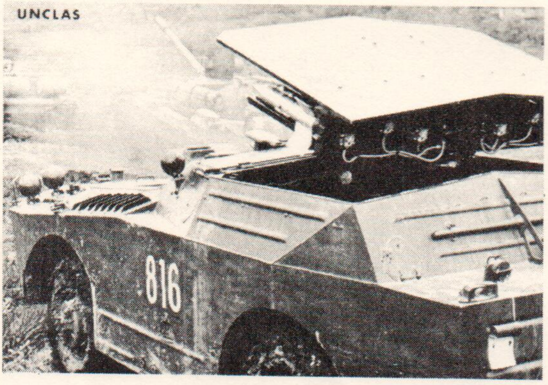


Fig 3. Latest Convertible! or is it?
Which Anti Tank Missile is this and on what vehicle is it mounted?

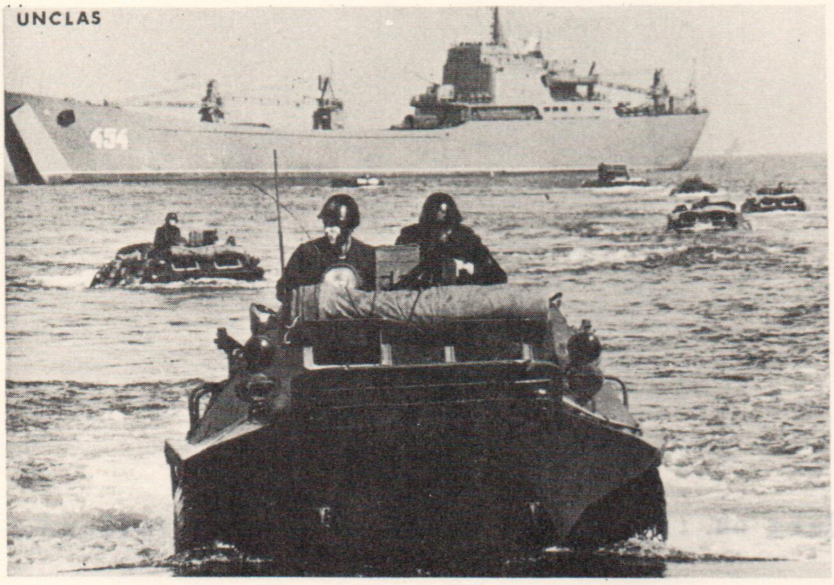


Fig 4. Trip round the Fleet - 20p
Can you recognize these APCs?

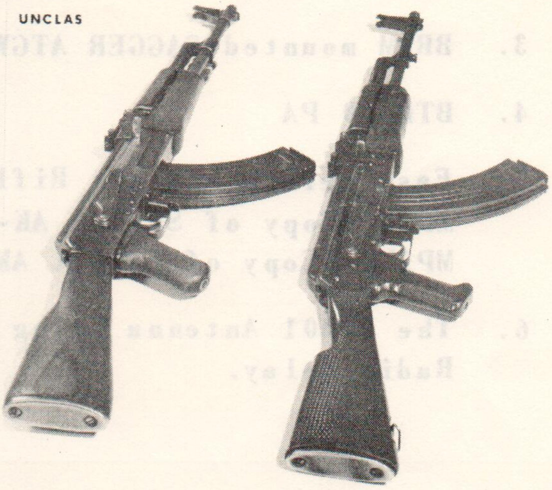


Fig 5. Know your Small Arms!

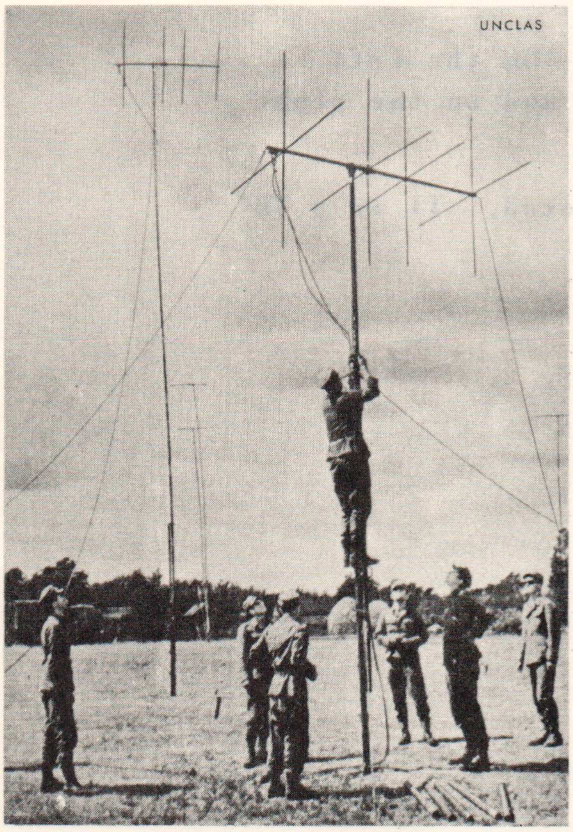


Fig 6. All the fun of the Fair.
Climb the Slippery Pole!
What's the prize at the top?

The answers to the Quiz on the preceding pages are as follows:

1. **PT-76 Light Amphibious Tank**
2. **Foe! T-62A. Note the 12.7 mm AA M.G.**
3. **BRDM mounted SAGGER ATGW System**
4. **BTR-60 PA**
5. **East German Assault Rifles. On the left MPiK (Copy of Soviet AK-47) and on the right MPiKM (Copy of Soviet AKM).**
6. **The R-401 Antenna being erected. It is a VHF Radio Relay.**